

Commentaries

Austere Defense: Challenges and Opportunities

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Measuring Military Power

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Strategy and Force Planning in a Time of Austerity

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Politics and Defense Capabilities: Local Interests versus Strategic Imperatives

Maj Brian R. Davis, USMC



Report Documentation Page			<i>Form Approved OMB No. 0704-0188</i>	
<p>Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p>				
1. REPORT DATE 2014	2. REPORT TYPE	3. DATES COVERED 00-00-2014 to 00-00-2014		
4. TITLE AND SUBTITLE Strategic Studies Quarterly (SSQ). Volume 8, Number 3. Fall 2014			5a. CONTRACT NUMBER	
			5b. GRANT NUMBER	
			5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)			5d. PROJECT NUMBER	
			5e. TASK NUMBER	
			5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Air Force Research Institute (AFRI),Strategic Studies Quarterly (SSQ),155 N. Twining Street,Maxwell AFB,AL,36112-6026			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)	
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited				
13. SUPPLEMENTARY NOTES				
14. ABSTRACT				
15. SUBJECT TERMS				
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 140
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified	19a. NAME OF RESPONSIBLE PERSON	

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Strategic Studies Quarterly (SSQ) (ISSN 1936-1815) is published quarterly by Air University Press, Maxwell AFB, AL. Articles in *SSQ* may be reproduced free of charge. Notify editor and include a standard source credit line on each reprint.

STRATEGIC STUDIES QUARTERLY

*An Air Force–Sponsored Strategic Forum on
National and International Security*

VOLUME 8

FALL 2014

NUMBER 3

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Austere Defense

Challenges and Opportunities

During the past year, the intensity of debate surrounding the current and future defense budgets has reached a fever pitch. Now, as political leaders, military planners, and industry moguls look toward the 2016–19 time frame, each is confronted with several difficult questions and choices impacting national security. For example, how much defense is enough? What is an acceptable level of risk given our austere budget climate? What kind of defense capability and level of readiness best meet US security needs? And what choices must be made to balance our national security ends, ways, and means? Of course the answers to these questions and many others have been hotly debated and, for the FY–2015 budget, mostly decided by Congress and the administration. But the debate is just beginning for the following year’s defense program, which is sure to present major challenges and a few opportunities. To understand the nature of this challenge, two overarching issues emerge: the ever-increasing US debt that led to sequestration and congressional culpability in creating and solving this problem. While these issues have grave implications for US national security, there are a number of reasonable solutions and ways to manage them during times of austere defense.

Former chairman of the Joint Chiefs of Staff, ADM Mike Mullin, stated that US debt was the greatest threat to national security.¹ While not all would agree with this statement when compared to the decline of other great powers, be they Rome or the former Soviet Union, Mullin’s view seems worthy of our attention. With current federal debt approaching \$18 trillion, we will soon find ourselves constrained in our ability to maintain a position of strength and flexibility in the world. Further, information from the Congressional Budget Office in April 2014 indicates public debt has reached 72 percent of GDP and is expected to increase to 78 percent by 2024.² In 2007 that ratio was only 35 percent. Granted, spending for two wars since 2001 contributed to this situation, and while defense is not the only cause, it is part of the solution.

To make matters worse, our spending addiction has focused mostly on consumption rather than productive infrastructure such as roads, bridges, ports, and high-speed rail lines, further limiting US national

security prowess. Should the United States suffer another financial crisis similar to 2008 before mitigating its budget woes, the implications could be devastating. The Budget Control Act (BCA) of 2011 was an attempt to address our debt crisis, but its impact is being felt throughout many levels of discretionary funding, most notably defense. The commendable efforts of Congress and the administration to gain control of huge deficits are essential to the long-term strength of the US economy, the military, and even the survival of Western democracy. While Colin Powell would say, “fix the problem, not the blame” the US Congress in both respects is culpable.

The Constitution, Constituency, and Coincidence

Collectively, Congress has a constitutional responsibility to provide for the national defense, and as elected officials, individual congressmen also have a responsibility to their local constituencies. While appearing in many ways to conflict, these competing responsibilities in reality coincide. Throughout the history of the United States, elected representatives have found ways to ensure this. Given the myriad of examples, cynics will question whether any politician has ever separated the choice between national security imperatives and their constituencies—or ever will do so. Politics has devolved into the great coincidence that spending for certain aspects of national defense also offers great benefits to particular states, locales, and communities—public, private, individual, and collective. The result of this paradigm feeds the addiction to spending and the sense that what is good for the constituency is good for national defense. How has this thinking manifested itself most recently? The most sensational examples include unwanted weapon systems, industrial base arguments, infrastructure, and compensation reform.

The Army provides one of the latest examples of unwanted weapon systems as Congress continues to require purchases of tanks in excess of service requirements. A similar example emerges from the Navy where excess amphibious ships and aircraft are funded continuously. The same pattern exists within the Air Force. For years Congress insisted on buying C-130 cargo aircraft even though service tactical airlift requirements were fulfilled. Today, the issue is the inability to divest the A-10 ground attack aircraft despite its poor survivability, obsolescence, and costs. Each of these examples indicates the reality of how constituency and co-

incidence appear to overcome constitutional responsibility for national defense—especially in the face of best military advice. In many ways these same arguments apply to support for the industrial base. But in this case, the coincidence factor is even more prevalent, and the constituency is the defense industry. A recent *Joint Force Quarterly* article cited two examples. The case of the M1 tank alluded to earlier includes 882 suppliers throughout the country, while the F-35 joint strike fighter program involves 1,300 suppliers located in almost every state.³ Critics of this line of reasoning may question the wisdom of curtailing industrial base support because of long lead times for recovery and strategic risk. But in an austere defense environment, when one compares the level of US capabilities to those of our potential rivals over the next 10 years, the industrial base support argument becomes another coincidental constituent benefit that crowds out higher priority national security investments such as research and development, readiness, education, and innovative exploitable technologies.

The area most indefensible when considering how to address austere defense is infrastructure. Since the last round of base closings in 2005, the DoD remains overinvested in infrastructure. Currently, it maintains more than 500 bases around the world, which amounts to between 20 and 30 percent overcapacity. The Center for a New American Security (CNAS) says the DoD saves approximately \$12 billion each year as a result of the last round of closings and estimates that savings of \$17 billion over the next 10 years could emerge from another cycle.⁴ Again, best military advice pleads for more consolidation, and at least one member of Congress, Rep. Adam Smith (D–WA), calls another round of BRAC absolutely necessary.⁵ Most communities surrounding military installations appreciate the impact those bases offer—noise notwithstanding. But as has been the case with previous base conversions, there can be very positive results from transitioning a federal facility to local control, including industrial development, commercial use, housing expansion, and recreation, along with the expanded tax base these conversions offer.

Finally, consider the impact of congressional decisions on military compensation and benefits. During the last five years, leaders within the DoD have been asking for compensation reform—both direct military pay and, more importantly, health care compensation. The debate is not a question of whether these benefits have been earned, for clearly they have. It revolves around the issues of sustainability and affordability.

Numerous studies have highlighted the skyrocketing costs of military health care even as active and retired ranks shrink. Likewise, according to Todd Harrison of the Center for Strategic and Budgetary Assessments (CSBA), the cost of direct military pay has increased 60 percent since 2001. Today, approximately 50 percent of the entire DoD budget is devoted to personnel expenses. Again, this is not an argument about the value of personal commitment to our national defense; it is about sustainability and affordability. Congress, considering voting members of the military among its constituency, has consistently rejected reasonable attempts to reign in the costs of medical care and slow the growth of direct compensation. The result has been, as in the examples above, increasing costs funded by higher appropriations, leading to higher deficits. Only in the DoD civilian workforce has growth in direct compensation been held in check over the last three years. This short review of the US debt crisis does not address all the causes and in fact omits another major factor—entitlements. But the fact remains, the US defense budget is part of the problem, it is exacerbated by certain congressional actions, and it must now be part of the solution. The austere defense years are upon us and will present mostly challenges to US leadership but will also offer opportunities to help heal the nation's debt crisis and sustain a strong national security through reasonable solutions based on best military advice.

A New Way Forward

Surviving the austere defense years will require an internal partnership between the DoD, Congress, the defense industry, and the American people. The partnership will necessitate a new approach to how the United States views its defense expenditures—more as the foundation of national security and much less as direct support to a particular constituency. In practice this idea can be translated into several reasonable solutions, including reassessing short-term risk versus long-term strength, accepting best military advice while acquiescing to divestitures, and effectively executing the austere defense cuts required by current law through 2019 and beyond.

Balancing risks is a continuous problem, and during times of austere budgets it becomes even more important. This balancing begins with recognizing that other regional powers may well emerge in key areas of

the world within the next 10 years. The unipolar superpower era is waning, so the United States should temper its global ambitions and embrace selective nonintervention while putting America first. This does not mean a false choice between global leadership and isolation—rather, it is a greater acceptance of risk and prioritized engagement. This philosophy will allow the nation to focus on financial stability and strength for the long term with minimum risk in the short term. The opportunity here is to accept greater risks over the next 10 years while the correlation of forces arrayed against US interests is still favorable. Could it be that our assessments of risk have, over time, become too conservative? Indeed, even with the effects of full sequestration the United States will remain a great power with a formidable military and strong alliances. Perhaps instead of lamenting the austere budget climate, the United States should allocate more time reminding potential adversaries of this fact. The DoD should be encouraged to explore specific risks associated with continued sequestration and propose its best military advice toward mitigating those risks and the force structures to do so.

Many opportunities for dealing with sequestration are being proposed within the DoD, only to be rejected by Congress. So, a next step toward reasonable solutions includes accepting the best military advice on unwanted weapons, industrial base support, and excess infrastructure. It also requires acquiescence by Congress in the DoD's ability to manage personnel costs such as the 1.0-percent increase in basic military pay and limiting the cost of living adjustment for retirees. Acquiescence is not shirking a constitutional duty. The services must also be allowed to shed excess infrastructure, equipment, and personnel. There must not be sacred cows among the initiatives unless we intend to make the best military burgers. Part of the thinking behind the opportunity of sequestration should encompass the idea of legislative relief. Each service should create specific recommendations for relief from inefficient or ineffective requirements. A most recent example involves greater information technology acquisition flexibility and oversight, and greater reprogramming authority.⁶ Additionally, the services must analyze how they measure readiness to verify if legacy processes remain the most valid assessment. Of course the services should also review their organizational structures, but they cannot organize their way out of this budget crunch. Looking at overhead, as Douglas Macgregor of *Politico* magazine reminds us, during World War II, only four four-star generals commanded a force

of 11 million soldiers. While the comparison is imprecise, it illustrates the point. Today the Army, Navy, and Air Force each have more than 10 four-star officers. To its credit, the Air Force is considering a proposal to decrease this number—pending congressional approval. No doubt the austere defense climate presents many challenges and opportunities for the services. But there are ways to effectively execute these cuts, particularly if congressional support is available.

In 2011, then deputy defense secretary William J. Lynn III, speaking to the Aerospace Industry Association in Paris, discussed four ways to effectively deal with drawdowns. First, make the hard decisions early. Things like marginally performing programs, unwanted weapons, and even personnel reductions all have a time value. And these capabilities are not like fine wine—they do not get better with age and become even more unaffordable. Second, Lynn noted efficiencies and productivity gains will only go so far in alleviating the budget pain. Although necessary, they will not be sufficient. Next, he stated the reductions must be balanced; they should not come from only one area of the budget—particularly operations and maintenance. Finally, Lynn recommended to not cut too much too fast. He clarifies this remark by saying one should avoid across-the-board cuts in favor of vertical choices.⁷ It appears the services' proposals have followed Lynn's advice rather closely, with few exceptions. Efforts from former secretary of defense Robert Gates eliminated many poor-performing or over-budget systems, and even more efficiency has been adopted recently. The Air Force has decided to reach its desired end strength quickly in an attempt to save and reinvest those funds, while the Army is drawing down personnel somewhat slower but at an effective pace. The Air Force has been the most ambitious of the services for vertical cuts but has enjoyed little success attaining congressional acquiescence. To reach the sequestration level of defense funding for FY 2016–19, other vertical cuts will be required and simply must be approved.

There is more to the debate of how to effectively execute not only the BCA, but any defense budget in any future year. Part of the debate must revolve around separating the requirement for national defense capabilities from any constituency. The true test of individual congressional responsibility is support for best military advice on organizing, training, and equipping military forces regardless the impact on any constituency.

And those constituencies include local districts, national industry, and even foreign governments.

Consider for a moment the impact of disassociating defense procurement from any constituency and visualize the impact of consolidating defense item production in a smaller number of states. Rather than creating a deliberate connection to the constituency in almost every state, industry would be free to select the most effective organization and footprint for production. Might there be savings associated with this arrangement? Might there be shorter acquisition cycle times, or might it be easier for elected representatives to realistically make decisions from a purely national point of view? Critics will argue that disconnecting defense spending from any of these constituencies would result in even less defense spending due to a lack of concern from the public and a lack of direct support for defense expenditures. This would result in critical national security capabilities being supplanted by other domestic priorities. But this myopic view discounts the true nature of feelings toward the military services among the US public.

Most Americans understand that freedom is not free, that the price of freedom is sacrifice, and for some that sacrifice is their life. Americans understand that democracy can only survive when people are willing to sacrifice for the greater good—particularly for the defense of the country. While national defense provides an opportunity for the US way of life, liberty, and prosperity, it does not nor should it guarantee defense expenditures that provide direct support to any particular constituency. These concepts must be professed and defended by elected representatives and appeals presented by defense leaders as the higher calling required for making decisions that impact national security. Many will consider such a stance political suicide, and perhaps austere defense presents the perfect circumstance to commit it. The American people must demand it and accept it.

Without question, the current and projected level of debt is a major concern for the future stability and status of the United States. It is a problem of the first magnitude that must be confronted and solved. While the US Congress has attempted to address this problem through the 2011 BCA, few proposed changes in defense spending to date have been allowed. But with reasonable choices, the partnership between Congress, the DoD, the defense industry, and the people can lead to a more stable, prosperous financial position and increased strength for the

long term. It will require reassessing the short-term level of acceptable risk, more national-level decision making detached from any constituency, and altruistic thinking within the partnership. Seventy years after the D-day invasion of Europe, one can only think of the sacrifices the United States made at that time and since. Today, the challenges are hardly as daunting or nearly as risky, but left unchecked they could be equally destructive. We must now contemplate our austere defense situation, confront the challenges, accept the risks, and make the sacrifice worthy of those who 70 years ago gave us this opportunity. **SSQ**

W. Michael Guillot
Editor, Strategic Studies Quarterly

Notes

1. CNN Wire Staff, "Mullen: Debt Is Top National Security Threat," *CNN.com*, 27 August 2010, <http://www.cnn.com/2010/US/08/27/debt.security.mullen/>.
2. Congressional Budget Office, "Updated Budget Projections: 2014 to 2024," 14 April 2014, <http://www.cbo.gov/publication/45229>.
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Measuring Military Power

Washington again teeters in a state of strategic freefall—similar to the periods of ambiguity immediately after World War II and the end of the Cold War. During such eras of indecision, when national decision makers and thought leaders lack a commonly accepted strategic framework, subjectivity largely drives the classic debate over how much defense is sufficient. There is an unprecedented need for tools that provide a transparent, standardized assessment of US military power over time. A common baseline that describes how much hard power the United States actually has in relation to its vital interests would help discipline the defense sufficiency discussion, much in the way an audit of family finances acts as the sobering first step in balancing the household budget.

The Precedence of Power

All relevant history of the struggle of policymakers to decide how much hard power—forces, weapons, systems, bases—the United States needs to protect the nation and its vital interests has occurred since World War II. Only after this conflict was there consensus in its strategic culture that the United States had become a global power with global interests. During the Second World War, the US military developed a laudable capacity to determine military sufficiency. In particular, as historian Paul Kennedy illustrates in *Engineers of Victory*, the armed forces adopted operational research and systems analysis methods to determine optimum cost-benefit tradeoffs in forces and tactics.¹ Yet, these tools gave planners and decision makers scant confidence in facing the future. Washington lacked a consensus on almost every front in determining military roles and missions, the nature of the Soviet threat, and the potential for stability in every major theater where forces might be deployed.²

As US decision makers began to move toward consensus on providing a robust mix of conventional and nuclear forces as a deterrent against Soviet expansion, the practice of quantifying US hard power requirements became a more practical exercise. Robert McNamara's long tenure as secretary of defense proved especially influential in institutionalizing the measure of hard power to determine its sufficiency as a component of national strategy. McNamara's team included Alain C. Enthoven, an

economist who had also served at the influential think tank, RAND—established after the war to preserve the military’s capacity to do high-level operational analysis as well as pioneer new methods of military research.

In 1961, Enthoven was named deputy assistant controller and deputy secretary of defense in the Defense Department’s Office of Controller. He headed the Office of Systems Analysis. Later, that office was split from the controller, and Enthoven served as an independent assistant secretary for systems analysis until he left government in 1969. He is widely credited with helping McNamara institutionalize operational systems analysis in driving programming and budgeting decisions in the Pentagon.³ Enthoven catalogued this approach to defense planning in a book he co-authored after leaving the Defense Department. Its title, *How Much Is Enough?*, became the standard for measuring the adequacy of the US military for decades.⁴

As with many aspects of defense planning, quantitative analysis came under intense scrutiny in the wake of the controversies of the Vietnam War. Emotion suffused much of the postwar debate. “To an unfortunate degree,” wrote scholar Richard K. Betts at the time, “reformist critiques have made an impression by resorting to hyperbole, overlooking dilemmas, and fixating on stark conceptual alternatives that rarely stand up to the practical requirements of fielding a large, variegated force committed to meet multiple contingencies.”⁵

The Reagan administration made a significant public effort to revive the credibility of quantitative assessments in force planning with publication of *Soviet Military Power* reports in 1981. The DoD produced new editions annually from 1983 to 1991. The goal of the reports was to provide a publically available assessment that could be used to compare the Soviet threat with US defense capabilities. This effort was not without critics who argued that the administration overstated Soviet forces.⁶

The use of quantitative measures of sufficiency as a basis for defense planning also came into question as new research methods suggested a strict accounting of the correlation of forces between the United States and the Soviet Union did not accurately reflect the true nature of the military balance. Especially influential was the work of the DoD Office of Net Assessment under Andrew Marshall, which looked at the combined evaluation of qualitative and quantitative factors to determine the

effectiveness of military force and how it might affect competition between the United States and the Soviet Union.⁷

Yet, controversies over measuring hard power remained a staple of defense planning, and the debates continued over sufficiency of the armed forces until the collapse of the Soviet Union. Indeed, getting back to a more dispassionate, rigorous measure of military needs eventually became a hallmark of the defense reform movement.

Arguably, the swan song for measuring hard power proved to be the development of the “Base Force” under JCS Chairman Colin Powell. Under Powell’s direction, the services and Joint Staff developed what they believed were “minimum” post–Cold War force requirements employing traditional measures of military power but adopting them for threats and missions absent the danger of a global standoff with the Soviets.⁸

Powell’s Base Force was quickly supplanted in 1993 by “The Report on the Bottom-Up Review” directed by then Secretary of Defense Les Aspin.⁹ Critics dismissed the “BUR” as a budgeting exercise that lacked a substantive foundation for the strategic choices called for in the report.¹⁰ This initiated the freefall of rigorous defense planning based on objective measures of military power.

After the failure of the BUR, congressional efforts to legislate the requirement for the *Quadrennial Defense Review (QDR)* reflected, in part, the desire of legislators to institutionalize standardized reporting that could serve as a baseline for long-term defense planning. The first *QDR* in 1997 proved a disappointment, doing little to change “the status-quo.”¹¹ While the legislation set price requirements for the *QDR*, the Pentagon had great flexibility in how to address them. Further, there was no real disciplining mechanism to force the administration to speak to reporting requirements that were not adequately addressed.

Each subsequent *QDR* adopted its own framework for analysis, assumptions, and metrics for assessing military power. Thus, the string of reports produced over the last two decades remains virtually useless as a benchmark for evaluating relative US military power over time.

Decade of Dissonance

While the 9/11 crisis proved a watershed in thinking about national security, it did little to resolve the challenge of returning to a baseline

of objectively measuring military forces as the basis of rational defense planning. The major threats that concerned Americans after the terrorist attacks on New York and Washington did not center on conventional and nuclear force planning, despite the major employment of US combat forces in Iraq and Afghanistan. The defense sufficiency debate was subsumed in bickering over soft power, counterinsurgency, hybrid warfare, asymmetric threats, failed states, nonstate actors, climate change, and a host of other considerations. The more concerns, issues, and factors added to assessing the adequacy of defense, the more difficult became establishing a commonly accepted benchmark for sufficiency.

Highly partisan and fractious political debates over defense—from the occupation of Iraq to budget sequestration—have further exacerbated the challenge of establishing a baseline. At the same time, the value of standard measures seems to have become less compelling in driving public policy decisions.¹²

The dissonance over defense planning may well have reached its nadir over the last several years. In rapid succession, the administration has issued a *QDR*; then, only two years later, new “strategic guidance,” followed soon after by a Strategic Choices and Management Review; and subsequently, a second *QDR*. After the 2014 *QDR* was issued, the chairman of the House Armed Services Committee publicly rejected the report for failing to meet the statutory guidelines in the legislation.¹³ While some argue the defense planning process and the *QDR* still have merit, others have concluded that the process has increasingly lost legitimacy.¹⁴

Back to the Baseline

It is an open question as to when the United States will have another defining event such as Pearl Harbor or the outbreak of the Korean War which will forge sufficient consensus for a common strategic outlook to measure what kind of military it needs. Waiting for such an event to galvanize and clarify how Washington sees the world seems the height of maleficence. Sound defense planning should preclude disasters and wars. Washington must do better than only knowing when it has it wrong—when everything starts to go wrong. Defense planning unanchored in rational decision making increasingly leaves critical choices to the whim of politics. A serious effort to rebuild and reshape the armed forces of the future will require setting goals and milestones to achieve.

Without a baseline measure, Washington will have no idea whether it is making progress or not.

A Modern Measuring Stick

The decision to get back to measuring is not without risks. Bad metrics can drive bad results as surely as no measure at all. The Clinton administration established the Government Performance and Results Act of 1993 and other executive and legislative efforts intended to improve how federal agencies operated by grading their ability to meet key performance goals. In some cases, such as the employment of new information technologies, the metrics and requirements established actually made performance worse.¹⁵ More recently, the Veterans Administration was rocked by scandal when performance measures imposed by its secretary sparked rampant fraud and did little to improve either the efficiency or effectiveness of the organization.

Undoubtedly, there are risks as well in establishing a standardized measure of military power. A bad measure will lead to bad choices. But this is a risk worth taking. Otherwise, Washington will continue to pick its way into the future without being bothered by reality. Further, there is a good argument to be made that measuring power is not only still important, but doable, albeit perhaps not using just the traditional measures and frameworks for analysis used during the Cold War.¹⁶

The first challenge in grading “military power” in a manner that can influence public policy decision making is to ask if it can be effectively measured. There is a strong case the answer is yes. The era of “big data” affords more information than ever. Much of this information is publicly available, suggesting that power can be measured in a manner that is transparent, verifiable, and repeatable from year to year. A second issue will be deciding what to measure. Any evaluative system will have to recognize that there are important components that cannot adequately be measured, and everything that can be measured may not be vital to decision makers.¹⁷ One approach might be to assess military power only in terms of protecting US vital interests, then grading that ability against a high and unimpeachable standard such as sufficient capacity to undertake two major military operations simultaneously.¹⁸

Next, this measure might be limited to clearly definable elements of military power—what the US military describes as “military capability;” that is, the ability to achieve a specified wartime objective (win a war or

battle, destroy a target set). It includes four major components: force structure, modernization, readiness, and sustainability.

- a. Force structure—The numbers, size, and composition of the units that comprise our defense forces; e.g., divisions, ships, air wings.
- b. Modernization—The technical sophistication of forces, units, weapon systems, and equipment.
- c. Unit readiness—The ability to provide capabilities required by the combatant commanders to execute their assigned missions. This is derived from the ability of each unit to deliver the outputs for which it was designed.
- d. Sustainability—The ability to maintain the necessary level and duration of operational activity to achieve military objectives. Sustainability is a function of providing for and maintaining those levels of ready forces, materiel, and consumables necessary to support military effort.¹⁹

Finally, since the effectiveness and utility of the US military's capabilities are relative to the threats it faces and the operational environment in which it operates, these factors would have to be part of an annual assessment as well to determine how US military power is changing over time. There are already some publically available tools, such as the International Institute for Strategic Studies' "The Military Balance," that have useful data.²⁰ But they are not nearly adequate. The IISS report does not provide nearly enough descriptive data to measure military capability nor does it account for the interests a nation must protect or the threats it faces.

The Limits of Power

A capacity to effectively measure US "hard" power over time would not come near to solving all of Washington's challenges. Leaders will still have to decide the optimal way to use the capabilities they have. They will still have to decide the best way to get more power if they think they need it. They will also have to decide how the military will work in concert with other instruments of US power to keep the nation safe, free, and prosperous. On the other hand, a common measure would at

least give all sides in the strategy debate a shared platform from which to address the needs for a future military. **SSQ**

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Notes

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Strategy and Force Planning in a Time of Austerity

On 13 February 1989, GEN Colin Powell, while transitioning from national security advisor to commander of US Army Forces Command, addressed the reality of strategy: “All of the sophisticated talk about grand strategy is helpful, but show me your budgets and I will tell you what your strategy is.”¹ What General Powell meant is that the definition of the US role in the world and its strategic goals flow from budgets, not the other way around. This commentary fleshes out General Powell’s observation by focusing on the “means” part of the ends, ways, and means of strategy to explain how austerity affects force planning and strategy. It then describes today’s austere budgetary environment by first examining budget reductions as a general matter and concludes with the current strategic options that will likely characterize the contemporary discussion of US strategy and force planning.

Decremental Spending

The defense budget system works most smoothly, of course, when budgets are growing, not shrinking.² The Department of Defense (DoD) budget has grown in 49 of 63 of years.³ With each year’s budget providing the baseline from which the next year’s increases take off, ever-increasing budgets do not demand strategic reassessments. Budget debates concentrate on where best to allocate any increases. Decreasing budgets obviously are more challenging. They require the articulation of a strategy, but that rarely happens, and even more rarely does strategy shape budgets. Rather, bureaucratic infighting tends to result in across-the-board rather than tailored budget cuts. With decremental spending, there is rarely an obvious reduction of strategic ends to guide the reduction in means. As budget expert Allen Schick explains, “Decrementalism diverges from incrementalism in at least three significant ways. Decremental budgeting is redistributive rather than distributive; it is less stable than incremental decisions; and it generates more conflict.”⁴

An adapted version of this paper will appear in *American Grand Strategy and the Future of U.S. Land Power* (Washington: Strategic Studies Institute, forthcoming). Reprinted with permission from National Defense University Press, Strategic Forum 287, May 2014.

As a practical matter, budgeting in austere times is different because of the context in which decisions are made. With an increasing budget, advocates of particular programs argue for increases to those programs from the overall increase to the budget. If successful, they can ask for still more funding in the following year; alternatively, programs that were not favored previously may receive additional funding in the following year's increment to compensate for smaller, earlier increases. In contrast, with a decreasing budget, a reduction that is taken in one year may not insulate a particular service or program from continued or increased reductions in the future. Quite the contrary, if a program survived with a 10 percent cut last year, the reduced level is the new baseline for next year's budget negotiation. This places a premium on defense leaders understanding the long-term budgetary conditions as defining a reality in which, they hope, strategy can be made realistic. Strategy involves far more than budgets. But budgets consume attention.

Even if the budget system could be used to make relevant cuts, political, institutional, bureaucratic, and other factors can lead to retaining obsolete weapons, forces, bases, and concepts, even though they are likely not the most effective way to accomplish the ends of grand strategy with the means available. As Carl Lieberman states, "Decrementalism tends to apply cuts broadly, but often fails to establish clear-cut priorities for reducing expenditures. Moreover, in a period of decremental spending, powerful political forces are likely to seek exemptions from proposed reductions for their preferred agencies or programs."⁵ In the extreme, austerity may cause political leaders to scramble to preserve constituent interests, military officers to fight to protect pet projects, and decision makers to placate the demands of competing groups, leaving no one to focus on the security needs of the nation. Consequently, during a period of austerity, when it is most important to maximize the effectiveness of each defense dollar, billions can be diverted to goals that may not provide the most effective contribution to national security. In austere times, this political reality has a bigger impact on the national strategy than in periods of budgetary growth.

Today's Austerity

The austerity in national security spending is a function of a drawdown from the wars in Iraq and Afghanistan, the need to reduce all parts of the

budget to address the federal fiscal crisis, and a concomitant reprioritization of effort to support a new, albeit incompletely defined, strategy. The fiscal crisis largely stems from the often polarizing and challenging national debate concerning the appropriate size of the federal government. This debate implicitly concerns the US role in the world as well. As figure 1 shows, the gap between spending (top line) and tax revenue (lower line) represents the deficit, which has averaged about 2 percent of gross domestic product (GDP) during nonrecession years.⁶ The deficit expands during recessions (with spending up to maintain government programs and revenues down due to fewer workers paying taxes) and shrinks as the economy grows, even achieving surpluses, as it did from 1998 to 2001. On average, prior to the 2008–09 recession, the United States was taxed at about 18–19 percent and had nonrecession federal spending averaging about 20–21 percent of GDP. While not ideal, this 2 percent fiscal gap was manageable.

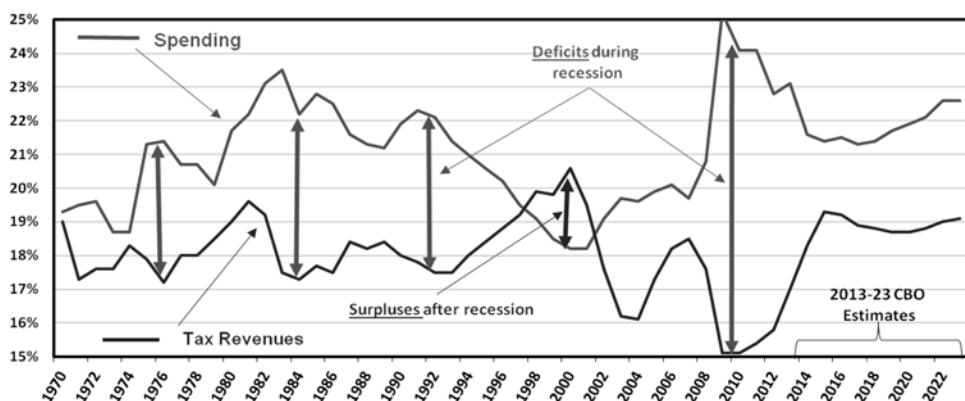


Figure 1. US federal spending and revenue as a percent of GDP, 1970–2022.
 Data compiled from Council of Economic Advisors, *Economic Report of the President* (Washington: GPO, 2013), tables B-80 and B-1 for FY 1970–2013; and Congressional Budget Office (CBO), *Budget Projections—February 2013 Baseline Projections* (Washington: CBO, 5 February 2013), table 1.

With the 2008 recession, leaders of both major political parties took significant and unprecedented action with the American Recovery and Revitalization Act in February 2009. This “stimulus bill” authorized \$787 billion (5.67 percent of GDP) for infrastructure spending, need-based aid, and tax expenditures, increasing government spending to 25 percent of GDP and reducing tax revenue to 15 percent of GDP. This

exacerbated the national debt, which now exceeds 100 percent of GDP for the first time since World War II.⁷

The fundamental question of means that confronts the nation is to the right side of figure 1. The 2013–23 lines reflect the Congressional Budget Office (CBO) projection for the federal budget, optimistically assuming there is no recession in the future. The gap between 19 percent of GDP in revenue and 22–23 percent of GDP in spending cannot be sustained indefinitely. Consequently, there is substantial need to reduce all forms of spending, including defense spending. To make matters worse, increasing numbers of the baby boom generation are now over 65, living longer, and receiving Social Security and growing Medicare benefits.

Over the past 50 years, federal government spending has seen an increase in the size of the social safety net (“entitlements”) and a decrease in defense. In 1960, for example, 52 percent of the federal budget was spent on national defense and 21 percent on entitlement programs. Today, the roles have more than reversed, with defense comprising just 18 percent and entitlement spending totaling 60 percent of the 2013 budget. Consequently, as reflected in figure 2, as federal spending on defense is reduced, the growth in individual payments or government health care spending will likely—and rapidly—absorb any reductions in defense spending.

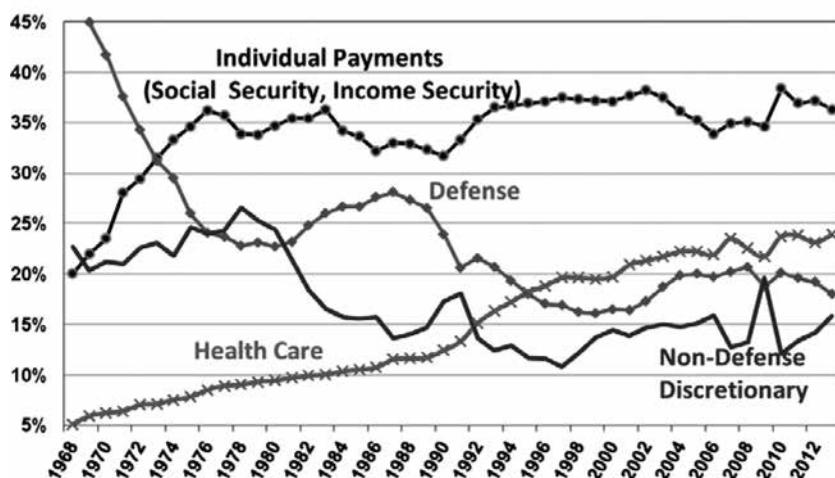


Figure 2. Components of US federal spending, 1968–2012. Data from Council of Economic Advisors, *Economic Report of the President*, table B-79.

The United States has had this problem before—in 1983—when the nation was in a significant recession, Social Security was rapidly becoming bankrupt, and the national deficit and debt were approaching historically high peacetime levels. The difference was that political leaders, primarily Republican president Ronald Reagan and Democrat speaker of the house Tip O’Neill, found a way to solve the fiscal crisis through compromise, facilitated by a commission headed by Federal Reserve chairman Alan Greenspan and bipartisan cooperation between Senators Patrick Moynihan (D–NY) and Robert Dole (R–KS), which significantly reformed Social Security and extended its solvency by more than 50 years. Reagan and O’Neill had to accept higher taxes, lower benefits, and other reforms, but they solved the problem.⁸

Unfortunately, the political environment today is characterized by extreme polarization which significantly limits the chances for coherent strategic choices to enhance national security. Instead of compromise, national leaders narrowly averted a debt ceiling crisis with the Budget Control Act (BCA) of 2011, which prescribed sequestration. Sequestration was viewed as so draconian and counterstrategic that it would force political leaders to compromise, but it failed to do so. As a result, when confronted with a “fiscal cliff” in January 2013, Congress delayed sequestration until 1 March and then allowed budget formulas instead of coherent policy to dictate federal spending. The government shutdown and the difficulty in extending the debt ceiling in October 2013 reflect the continuing political paralysis in Washington. The Murray–Ryan Bipartisan Budget Act in December 2013 forestalled an immediate crisis in 2014, but it does not provide substantial movement toward a comprehensive solution in the future.

Without a national consensus on the systemic budgetary challenges, cuts in defense programs will have little impact on the national fiscal crisis. If cutting an Army or Marine division saves \$5 billion per year, such savings would represent merely \$5 billion in entitlement reform that would not be required, tax revenues that would not be raised, or domestic programs that would not be cut.

What should be done under these economic and political circumstances with regard to force planning? First, defense leaders need to engage in a credible dialogue about austerity as part of a grand strategy that includes seeking fiscal balance. As defense spending is cut, those savings should be used for deficit reduction—that is, to improve the nation’s

fiscal position and not for other political priorities. Second, defense leaders should not only notice but also focus on other parts of government because of their effects on national security. Arguably one of the greatest threats to US national security is the unchecked expansion of entitlements without commensurate revenues which leads to increased federal debt, retarded national growth, and further austerity. While some might argue the military should not comment on domestic programs or entitlement spending, it is not only appropriate, but also essential that military leaders provide their best judgment about the impact of those programs on economic security and national defense. Finally, within this context, defense leaders still need to make strategic choices with regard to national security priorities.

Current Challenges

Strategy in an age of austerity must carefully consider current defense spending and the levels from which proposed reductions begin. First, the historical approach to DoD spending has been for the Army to receive roughly 25 percent of the defense budget, almost consistently for the past 60 years. The exceptions have occurred when Army spending—as a percent of the overall DoD budget—increases in support of combat operations during wartime. The fiscal year 2014 budget reflects that return to the 25-percent level, as shown in figure 3. As sequestration was imposed, it affected all DoD budget accounts, except military pay and a few other programs, with a proportional reduction of spending.⁹ It was certainly not a strategic decision on how best to take the cuts. It was the easiest, albeit least thoughtful, method of imposing across-the-board reductions of the defense budget.

Understandably, defense leaders thought that imposition of cuts through sequestration was the absence of a strategy, and Secretary of Defense Chuck Hagel directed DoD leaders to conduct a strategic choices and management review (SCMR) “to help ensure the Department of Defense is prepared in the face of unprecedented budget uncertainty . . . [and] to understand the impact of further budget reductions on the Department and develop options to deal with these additional cuts.”¹⁰ In addition to identifying specific management reforms, overhead reductions, and proposed reductions to military compensation, the SCMR

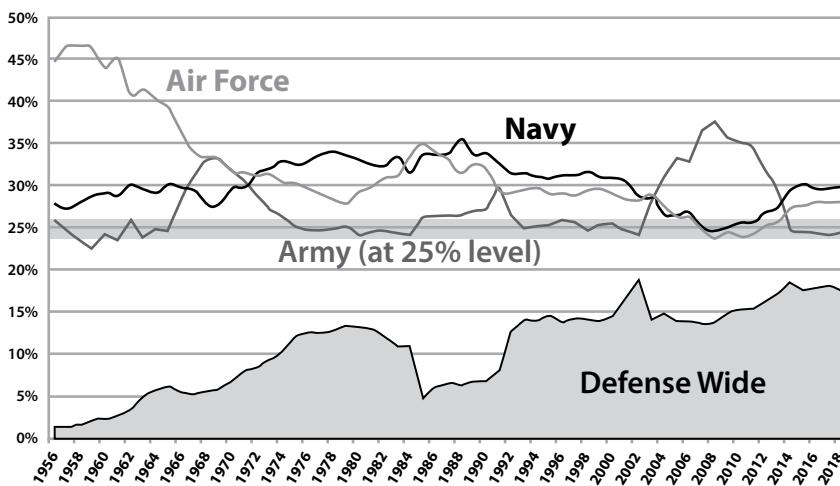


Figure 3. Budget shares by service, 1956–2018. Data from DoD Comptroller, *National Defense Budget Estimates for FY 2014*, table 6-13.

identified, but did not decide between, two broad options going forward, each of which would represent a distinct strategic direction. Secretary Hagel outlined these options as follows.

Approach one concentrates on technology and acquisition and trades size for high-end capability:

- The Army would be reduced from the 490,000 currently planned to between 380,000 and 450,000 active-duty Soldiers for the future force.
- The Navy would be reduced from 11 carriers to 8 or 9 carriers.
- The Marine Corps would be reduced from 182,000 to between 150,000 and 175,000 active-duty troops.
- Modernization would continue, especially against anti-access/area-denial threats with long-range strike, submarine cruise missiles, joint strike fighters, and special operations forces.

Approach two concentrates on force structure and trades high-end capability for size:

- The Army, Navy, and Marines would generally retain projected sizes to sustain capability for regional power projection and presence.
- Modernization programs would be canceled or curtailed, with slower growth in cyber and other programs.

- Defense writ large, in effect, would take a decade-long modernization holiday.

Such decisions dictate strategy, as General Powell noted in 1989. While Secretary Hagel made no decision between these approaches, these kinds of choices illustrate substantial tradeoffs among defense priorities and imply the nation's strategy. Either approach would be substantially different from the current cuts and would represent a fundamental strategic choice. Mark Gunzinger of the Center for Strategic and Budgetary Assessments argues that the 1993 bottom-up review was “the last time the Pentagon created a new vision for how the U.S. military should prepare to meet the nation’s security challenges.”¹¹ If adopted, either of the SCMR’s fundamental approaches would have a similar strategic impact on national defense to that of the 1993 bottom-up review, which provided the general vision for DoD force planning over the past 20 years.

For those looking for a strategic choice, the *Quadrennial Defense Review (QDR) 2014* was disappointing. Instead of articulating a clear choice, it made the force smaller overall and emphasized the calamitous impact of continuing sequestration-level cuts. In an uncharacteristically blunt section of the *QDR* titled “Implications and Risks of Sequestration-Level Cuts,” the report concludes:

The return of sequestration-level cuts in FY2016 [the current law] would significantly reduce the Department’s ability to fully implement our strategy. . . . [R]isks associated with conducting military operations would rise substantially. Our military would be unbalanced and eventually too small and insufficiently modern to meet the needs of our strategy, leading to greater risk of longer wars with higher casualties. . . . Ultimately, continued sequestration-level cuts would likely embolden our adversaries and undermine the confidence of our allies.¹²

In this *QDR*, the DoD has forestalled making fundamental strategic choices and instead has declared to Congress and the public that if we follow the current law, we will have longer wars, more casualties, emboldened adversaries, and undermined confidence in our nation’s security. This statement of the consequences of budget decisions made without considerations of strategy could hardly be clearer. It appears to be falling on deaf ears.

When the nation eventually does make a strategic choice, it is worth noting from a budgetary standpoint that approach two described by Secretary Hagel is more consistent with most of the defense decisions that have been made by the United States in previous postwar periods. The

need for military engagement in the world as either a global superpower or the leader of the West during the Cold War has meant that procurement budgets either rose or fell much more rapidly than the overall defense budget (see fig. 4) as services relied less on always replacing the latest equipment. Instead they continued research and development (R&D) and then procured equipment if and when funding became available.¹³ The contrast is clear as the procurement line in figure 4 (dashed line) has much greater annual fluctuations (both up and down) than either the defense budget as a whole (heavy solid line) or military personnel spending (light solid line). Since it is unlikely that the armed forces will confront a technologically superior military competitor in the next decade, deferring fleet-wide procurement of new technology may be the best way to allocate scarce funding in the near future.

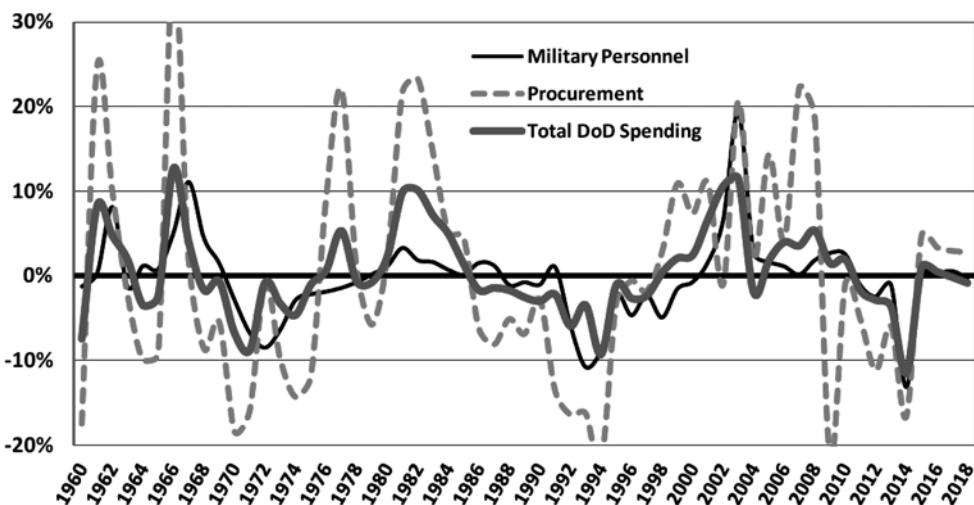


Figure 4. Annual changes in spending components, 1960–2018. Data from DoD Comptroller, *National Defense Budget Estimates for FY 2014*, table 6-8.

The best example of deferring modernization was the Army during the 1970s when it maintained its force structure of 16 divisions and 770,000 Soldiers but had little money for modernization. GEN Creighton Abrams, chief of staff of the Army at the time, put its limited R&D funding into the “Big Five” weapon systems: the Abrams tank, Bradley fighting vehicle, Blackhawk and Apache helicopters, and Patriot missile. He also streamlined Army organizations, improved acquisition practices, and revitalized training. Then, when funding was available in the 1980s,

procurement could be increased to provide the basic systems that remain the mainstay of the service today. Some investment in R&D as a hedge against technological surprises is appropriate, but during this period of strategic uncertainty and fiscal austerity, large-scale procurement should not be funded at the expense of forces that can shape the current international environment. And, as Russian expansionism shows, the international environment is neither static nor unthreatening.

Strategy and force planning concepts are fundamentally different in a time of austerity, because the defense budgeting process that may work with spending increases has significant problems executing budget reductions. To make strategic choices effectively, leaders must understand the context of their decisions, which includes the current US fiscal and political circumstances that make strategic planning extremely difficult. As a result, the absence of strategy was implemented through the sequestration cuts imposed by the BCA of 2011, which reduced spending across the board. There remains a chance for coherent strategic choices, and the Department of Defense has identified fundamental choices in the SCMR. But, so far, the DoD has avoided making those choices in the 2014 *QDR*, preferring to wait until there is greater relief from sequestration-imposed austerity. If a strategic choice is made, it may help resolve the connection between ends, ways, and means and be an important step forward in developing an effective US grand strategy. **SSQ**

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Notes

1. Colin Powell, “The Changing Foreign Policy Environment,” lecture to the Woodrow Wilson School at Princeton University, 13 February 1989.
2. For further insights into decremental spending, see Michael J. Meese, “Defense Decision Making under Budget Stringency: Explaining Downsizing in the United States Army” (PhD diss., Princeton University, 2000).
3. Of the 49 years of growth, more than half (32) included real (inflation-adjusted) growth and 17 included nominal growth. Calculations based on DoD Comptroller, *National Defense*

Budget Estimates for FY 2014 (Green Book) (Washington: DoD, May 2013), table 6-1, recording changes in total obligational authority from fiscal years 1948 to 2013.

4. Allen Schick, "Incremental Budgeting in a Decremental Age," *Policy Sciences* 16 (September 1983): 1–25.

5. Carl Lieberman, *Making Economic Policy* (Englewood Cliffs, NJ: Prentice-Hall, 1991), 19.

6. Calculations based on data from Council of Economic Advisors, *Economic Report of the President* (Washington: Government Printing Office, 2013), tables B-80 and B-1 for fiscal years 1970–2013 (hereafter EROP); and Congressional Budget Office (CBO), *Budget Projections—February 2013 Baseline Projections* (Washington: CBO, 5 February 2013), table 1.

7. Calculations based on EROP, table B-79. The 2013 national debt is estimated at \$16.7 trillion, which is 107.7 percent of gross domestic product (GDP). Of this total, \$11.9 trillion (77.5 percent of GDP) is debt held by the public, and the balance is the portion of debt held by government agencies (such as trust funds).

8. See Robert G. Penner, "The Greenspan Commission and the Social Security Reforms of 1983," in *Triumphs and Tragedies of the Modern Presidency: Seventy-Six Case Studies in Presidential Leadership*, ed. David Abshire (Westport, CT: Praeger, 2001), available at http://www.thepresidency.org/storage/documents/Greenspan_Commission_and_Social_Security_Reforms.pdf.

9. Sequestration could have also affected military pay, but Pres. Barack Obama chose to exempt military personnel from the automatic reductions for both fiscal years 2013 and 2014. See Andrew Tilghman, "Military Pay to Be Exempt from Sequestration in 2014," *Army Times*, 9 August 2013.

10. See "Statement on Strategic Choices and Management Review as delivered by Secretary of Defense Chuck Hagel, Pentagon Press Briefing Room, Wednesday, July 31, 2013," <http://www.defense.gov/Speeches/Speech.aspx?SpeechID=1798>.

11. Mark Gunzinger, *Shaping America's Future Military: Toward a New Force Planning Construct* (Washington: Center for Strategic and Budgetary Assessments, 2013), ii.

12. *Quadrennial Defense Review 2014* (Washington: DoD, 2014), 53.

13. Calculations based on DoD Comptroller, *National Defense Budget Estimates for FY 2014*, table 6-8.

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Pensive Sword

Educating Officers in Austere Times

Confronted with austerity, an organization usually has two options: hunker down or innovate. In military organizations, the tendency is to hunker down. Budgetary cuts and manpower reductions are uniformly distributed across subfunctions through the “salami slice” or “peanut butter spread” methods, and everyone is asked to do the same—or a little more—with less. Seldom, if ever, does a mission or area of responsibility go away with the dollars and people. In this world of linear exsanguination, everything gets progressively smaller. Travel budgets, supply accounts, and flying-hour programs all shrink, and training programs are scaled back by fiscal necessity. Yet, the security requirements and capabilities demanded of the services remain the same. Hence, the force becomes “hollow.”

Innovation is the antidote to the hollow force; but organizations in general, and military organizations in particular, have trouble innovating. Doctrine, standard operating procedures, as well as tactics, techniques, and procedures for fighting, all present impediments to innovation. Perhaps more than any institution shy of the medieval monastery, the military is comfortable with routine. The command of execution is called an “order,” and orders usually, well . . . preserve order. Yet, austerity demands changes in the established order. Austerity demands innovation.

Scholars are of two schools on military innovation. Barry Posen, in studying doctrinal innovation in Britain, France, and Germany between the world wars, concluded that organizational inertia kept these hide-bound militaries from innovating and that new doctrine required considerable pressure from key political figures sensitive to changes in the balance of power among nations. These politicians, knowing little of military matters, then worked through “mavericks” like Hugh Dowding in Great Britain’s Fighter Command and Heinz Guderian in the German Wehrmacht to effect change.¹ Implicit to Posen’s analysis was the assumption that civilian leaders would have the mental capacity to understand how changes in military doctrine could shape regional and global balances of power. Further, Posen seems to have assumed that military

personnel bound to routine and organizational priorities, even sensing changes in the security environment, could do little about them.

On the other hand, Stephen Rosen, once a student of Posen, took a different approach and came to nearly the opposite conclusion about military innovation. Rosen saw plenty of evidence for military professionals “sensing changes in the security environment” and implementing innovative programs in response. From William Moffett’s aircraft carriers to Hamilton Howze’s helicopter-mobile infantry, Rosen depicts a US military in tune with the social and technical forces auguring for change. Perceptively, he contends that the key to the long-term innovation usually associated with peacetime is promotion of promising officers to flag rank—through the new system or way of doing business. Rosen also contends that budgetary levels had little to do with innovation. In fact, most of the innovation he documents occurred in relatively austere financial climates for the military.²

The analyses of Posen and Rosen—as well as that of Owen Reid Coté, who contends that interservice competition is the key to US military innovation³—while insightful at times, fail to account for the phenomenon. All seem to write around the variable with the most impact: the education of officers who become innovators and leaders. Thus, education is the engine of military innovation, creating knowledge capital that is the military answer to austerity.

While some would contend that military education is oxymoronic, it is absolutely essential to conceptualizing and implementing productive change in US security, because we cannot *train* innovators. Educated men and women sense changes in the security environment that affect the international balance of power. Their horizons are broader than those defined by doctrine and standard tactics, techniques, and procedures. They also understand the intricacies of civil-military relations so essential to funding projects through to completion, as well as the moral and ethical boundaries to action.

Training, on the other hand, teaches what we already know. Its processes are linear, and adjustments are typically scalar—more of this or less of that yields a proportional output. The military knows training. In fact, Strategic Air Command in the 1950s invented the systems approach to training (SAT). The airlines adopted the SAT for training pilots, and it morphed into instructional systems development (ISD), the dominant philosophy of Air Force training today. Some “educationists”

would contend that, through outcomes-based education, ISD has also become a dominant educational philosophy, a *doctrine* if you will, particularly for the military. Steeped in learning objectives and samples of behavior, the proponents of ISD have attempted to turn education into a social science—something that would lend itself to an operational readiness inspection—and something it will never be. The true object—the desired learning outcome—of real education is unknown. Hence, it cannot be derived in a reductionist manner by adjusting the input. Education is nonlinear and borders on chaotic. It is emotional, revelatory, and prone to question the established order of things. It is also horribly inefficient. Hence, education is a strange bedfellow to military practice. But sleep together they must, because education provides answers to the questions unresolved by training, unpenetrated by doctrine, and unrelated to previous experience. Education is the key to dealing with austerity, because as budgets shrink and capabilities decline, knowledge capital earned in the interim will become critical to US national security.

And so it has been in the past. William T. Sherman and Emory Upton realized as much in the militarily austere late nineteenth century when they set in motion the plans to build the Army schools at Fort Leavenworth, Kansas. Elihu Root, as secretary of war, further refined the system in the wake of the Spanish-American War by establishing the Army War College in Carlisle, Pennsylvania, to assist the newly established General Staff. Root systematized the postgraduate education of Army officers to include branch schools for infantry, artillery, and cavalry; a general intermediate course at Leavenworth that focused on logistics, tactics, and operations; and the War College to focus on strategy and civil-military relations. This template or continuum of postgraduate education for officers remains intact today and has been widely copied by the other services. The graduates of these “applicatory” courses saw the Army through the rapid technological and sociological changes that preceded the two world wars, and they shone as division and corps commanders in those conflicts. Some went on to become chiefs of staff, secretary of state, and even president.⁴ And even in the most austere budgetary climate of the interwar period and Great Depression, the Army insisted on sending a large cohort of its best officers to the Leavenworth schools. From 1920 to 1940, 3,677 officers graduated from the one-year or two-year course at Leavenworth. In fact, school seems to have been the primary activity for Army officers during the lean interwar and

depression years. Of the 34 US Army officers who commanded corps in World War II, 25 spent 10 years or more as students or instructors.⁵ In the worst of times, the Army invested scarce dollars in education, and the payback was enormous.

Similarly, the Navy at the end of the nineteenth century—perhaps the most austere period in its existence—invested in the postgraduate education of its officers by founding the Naval War College in Newport, Rhode Island. While the focus at Leavenworth was on tactics and operations amid technical and social change, the emphasis at Newport was on strategy, curiously transformed by the same forces.⁶ The Naval War College adapted itself to a nation transforming its outlook from isolation to manifest destiny. The Navy was, in fact, part of that transformation. It was no accident that Stephen B. Luce, first commandant of the school, brought the son of noted West Point professor, Dennis Hart Mahan, to the college almost coincident with its founding. Alfred Thayer Mahan is perhaps the most influential military theorist of the past two centuries, and his posting at Newport points to something painfully obvious about education. It can be only as good as the administration, faculty, and students engaged. Here the relationship *is* linear: good administration hires good faculty who, in turn, attract good students. At one point the Infantry School at Fort Benning, Georgia, boasted George C. Marshall as the assistant commandant and Joseph Stilwell and Omar Bradley as department heads. The stellar accomplishments of these officers in the Second World War reinforces Rosen's thesis about innovative military enterprises: promoting the participants to flag rank ensures the success of the system. As Marshall, Stilwell, and Bradley demonstrated, the same is true of schooling. Creating a path to flag rank that runs through the podium of the classroom ensures the continuing quality of faculty. School administrators must take pains not only to attract upwardly mobile officers to faculty positions, but also arrange key assignments following the completion of teaching duties. This manner of "flight-following" requires a degree of complicity from the personnel system. In other words, the emphasis on education and the rewards for graduating students and faculty must become a service-wide enterprise. Only then will the colleges attract faculty who can credibly demand rigor and students willing to rise to the challenge. Or, as MAJ Smith Leach, the assistant commandant at Leavenworth, said to the entering class of 1902, "We are equally concerned with your present achievement

and your future promise.”⁷ Such concern is properly levied on both students and faculty.

The Air Force has had a mixed experience with education, which is particularly interesting since America’s youngest service was literally born in school. What became the Air Corps Tactical School fit into Root’s system as a branch school and was originally established at Langley Field in Virginia in the early 1920s. It then moved to Maxwell Field, Alabama, in 1929. Throughout the Great Depression, faculty at the ACTS, including George Brett, Haywood Hansel, and Harold George, evolved a doctrine of high-altitude, precision, daylight bombing of enemy industrial capacity that would one day become the stalking horse for service independence. While these men went on to achieve flag rank during the Second World War, faculty duty in Air Force schools could hardly have been viewed as a route to stars.

Take, for example, the School of Advanced Air and Space Studies (SAASS), perhaps the Air Force’s most elite school. The student body is small, mostly mid-career active duty Air Force officers, and has ranged from 25 to 60 members since its inception in 1991. The number of faculty, all possessing doctoral degrees, has fluctuated with the student body from nine to 22 members, of which nearly half have been military. Ninety-eight percent of Air Force SAASS graduates have been promoted to the rank of colonel. Of those eligible to meet the brigadier general (O-7) board, nearly 30 percent have been promoted. Most of the military faculty at SAASS are indeed graduates who completed additional schooling. Yet, not a single one of these graduates cum faculty, with more than 30 eligible, has ever been selected for flag rank. Part of this is attributable to the additional time required to earn the requisite PhD for faculty standing. But the Air Force personnel system reassigned all would-be professors between their doctoral programs and return to teaching duties. Many of these intervening postings have been to squadron command or very high-impact staff positions. Two former faculty have commanded groups, yet not a single appointment to wing command—the general prerequisite for earning the first star.

Some have said the Air Force is not enamored with education, but the numbers tell a different story. Students fare extraordinarily well after graduation, and selection for a school, as well as peer competition in elite company, serve to stratify their records and lead to promotion. Military faculty, on the other hand, typically retire as colonels and find research

or teaching positions as civil servants. By not promoting these scholars, many of whom also have impeccable operational credentials, the Air Force deprives itself of intellectual weight in senior ranks and disincentivizes faculty duty for some of its most talented officers. Such profligacy may be acceptable in times of plenty, but austerity begs prudence in managing resources of this caliber.

One way of managing the military-faculty resource is to do away with it by hiring civilians into either contract or civil service positions. Recent studies demonstrate that civilians cost less by a considerable margin.⁸ The tweed coats, however, have certain drawbacks that inhere from the lack of fresh operational experience and diminished value as role models and career mentors for younger officers. Civilians who are retired officers ameliorate these shortcomings somewhat, without eliminating them completely. Often shorted in the calculations, however, is the benefit that accrues to military officers as faculty members. Here the growth in intellect and maturity can be substantial and pay dividends throughout the remainder of a career, provided the service and its personnel system are willing to capitalize on the advantages accrued. So, the current practice of mixing civilian and military faculty in most schools, with ratios dictated by the needs of students, seems both reasonable and fiscally prudent. It also suggests that the faculties of military schools should have civilian degrees and focus their broad-based education on the specific needs of their officer students. In this manner, both the value and variety that inhere in civilian academe penetrate the military gene pool.

Equally contentious is the question of in-house versus “commercial” education for officers. The United States continues to harbor some of the finest graduate schools in the world, and many officers have benefitted by taking advanced degrees from these civilian institutions. The problem of mass application has components of time, money, and specialization. Civilian degrees usually take longer than the military professional alternative, and tuition is relatively expensive. More importantly, the civilian programs are often only tangentially connected to the profession of arms. While one could take behavioral science to learn about leadership, and international relations or political science to learn about coercion, or military history to learn about strategy, that approach is more obtuse and lacks the focus of professional military education.

Austere budgetary climates may suggest cuts to postgraduate educational programs for officers. While penny wise, such a move would be

pound foolish. Compared to other items and activities in the military budget, education is inexpensive and pays for itself in the form of ideas. Education can point the way to more efficient and effective practices that are congruent with reduced spending. Most of the institutions for military education were established in relatively lean times, and each appears to have prepared officers for the conflicts that ensued. Today the US military should expect the same and embrace education as a hedge against future threats. The keys to good education are savvy administration and qualified faculty, while the first priority of college administrators is the faculty. Attracting qualified military faculty requires work in the personnel system to assure relevant follow-on postings and promotion, in some cases to flag rank.

Military education programs will always hover between the natural tension of order and chaos, between liberalism and certitude, between education and training. This is a natural consequence of juxtaposing the military with that which would attempt to change it. As Neil Sheehan wrote of Curtis LeMay late in his career, “He could not sense that what he might least want to hear was what he might most need to know.”⁹ So it is with the military and education. Let them speak to each other. **SSQ**

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Rethinking Readiness

Todd Harrison

In this era of austerity, the debate over the defense budget is, in many respects, a debate over readiness. Nearly every part of the defense budget is related to readiness in one form or another, whether through pay and benefits for military personnel, funding for training and maintenance, or the development and procurement of weapon systems. Over the next decade, the US military plans to spend more than \$5 trillion dollars on readiness in all its forms.¹ To have an informed debate over the right level and allocation of defense spending, Congress and the nation first need a better understanding of what military readiness is and how budget decisions affect readiness.

The 2011 *National Military Strategy* defines readiness as “the ability to provide and integrate capabilities required by Combatant Commanders to execute their assigned missions.”² The chairman of the Joint Chiefs of Staff’s (CJCS) readiness system describes three levels of war-fighting readiness: strategic, operational, and tactical. The common thread in how the military defines readiness at all three levels is the ability of forces to perform the missions and tasks assigned to them.³

While there is broad agreement on the importance of readiness, these definitions fail to answer some basic questions. What does it mean to be ready? What are the attributes of a ready force? And how much readiness is enough? Readiness can mean the level of training or staffing of units. It can also refer to how well equipment is maintained or to the availability of supplies. It can refer to unit-level readiness or joint force readiness. It can be low or high but is rarely too high. Perhaps Richard Betts offered the best description of readiness, writing almost 20 years ago: “Although we may not know what readiness is, we know it when we see it, or, more often, when we do not see it.”⁴ Betts distilled the specific meaning of readiness into three fundamental questions:

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Readiness for what? The most basic element of understanding readiness is knowing what types of wars the military must be prepared to fight. This includes potential adversaries it could face, the capabilities these adversaries are likely to possess, the conditions under which conflict may occur, and how the military plans to fight or deter such wars.

Readiness for when? Readiness also depends on the time interval in which the military must be prepared to respond. Near-term readiness depends in part on the peacetime force posture, such as the mix of forces in the active and reserve components and the stationing of forces at home or overseas. Some conflicts could begin with little or no warning, greatly compressing required response times. Long-term readiness depends more on the capabilities the military is investing in for the future and how these capabilities will address the future threat environment.

Readiness of what? One must also know which parts of the force must be ready, and the answers to the first two questions may vary for different parts of the force. Some elements of the force may need to be prepared for certain threats but not others. Likewise, some parts of the force may need to be ready for today's fight, some may need to prepare for tomorrow's fight, and some may need to be ready for both.⁵

The answers to all three of Betts' questions are fundamentally matters of strategy; what it means to be "ready" can only be understood in the context of one's strategy. For example, military strategy could emphasize defense in depth, mobilization, preemption, or forward defense. For the military and its civilian leaders to know if it is sufficiently ready, it must have a strategy that adequately describes what it must be ready for, when it must be ready, and what parts of the force must be ready. A strategy that does not define these attributes of readiness is, at best, incomplete.

For example, part of an overall defense strategy might be to use ground-based national missile defense forces to deter an adversary from launching ballistic missiles at the homeland. To achieve this objective, missile defense forces would need to be ready to detect, track, and launch interceptors. Since an adversary's offensive missile forces could reach targets in the United States within minutes of being launched, interceptors must be ready to respond within minutes to make a successful intercept possible. This description of the role of ground-based missile defense forces as part of an overall defense strategy answers each of Betts' questions:

- *Readiness for what?* Providing national missile defense for the homeland.

- *Readiness for when?* Within minutes of being notified.
- *Readiness of what?* Ground-based missile defense forces.

A defense strategy could also choose to take risks in near-term readiness, as the British did in the interwar period with the implementation of the “ten-year rule.” In hindsight, the ten-year rule is often remembered as foolish and shortsighted because it remained in effect through 1933, and war came only six years later. However, from 1919 to 1929 the rule worked as intended and allowed Britain to reduce defense spending by cutting near-term readiness.⁶ Near-term readiness, by definition, has a short shelf life. If the military is not used during the period it is kept at a high state of readiness, near-term readiness yields little value beyond its deterrent effect. Investments in long-term readiness, such as new technologies and capabilities, have the potential to yield value years or decades into the future. Of course, one never knows when threats may emerge and how much warning will be afforded—a risk inherent with any time-based strategy. A 10-year rule that is automatically extended year after year will eventually prove to be misguided.

Why “How” Matters

This article does not attempt to offer an overall strategy for the military or make recommendations for how readiness should figure into that strategy. Instead, it focuses on what to do once the questions of “readiness for what,” “readiness for when,” and “readiness of what” have been settled. The trillion-dollar question for defense is: How can resources be allocated most effectively to achieve the readiness required by strategy? Unlike Betts’ three questions, the question of *how* to achieve readiness is fundamentally one of resource management rather than strategy and is of particular importance in an austere defense environment.

In the book *Moneyball*, Michael Lewis chronicles the story of how Billy Beane, the general manager of the Oakland Athletics, conducted a grand experiment to “rethink baseball.” Knowing his team would never have the resources of wealthier teams like the New York Yankees, Beane began a systematic and scientific look for inefficiencies in baseball. By using new metrics (known as “sabermetrics” in baseball) to gauge the value of players and by understanding how these metrics contribute to

winning games, Beane was able to build a roster of players and a winning record that in many ways upended the game.⁷

In defense, as in baseball, the way money is spent often matters as much as the total amount of money available. History is replete with examples of wealthier nations being defeated by more modestly resourced adversaries.⁸ Understanding how best to resource readiness requires the same two things Billy Beane brought to the Oakland A's—better metrics and a better understanding of the relationship between inputs (resources) and outputs (readiness). With such an understanding, the inputs can be fine-tuned to produce a more ready and capable force for a given level of resources. The first section of this article examines the differences between measuring readiness inputs and outputs and proposes a method for developing strategy-based metrics for readiness outputs. Next, it explores methods to identify causal relationships among readiness inputs and outputs so resources can be optimized to achieve the readiness required by one's strategy. The article concludes by making specific recommendations to improve the way the US military measures and resources readiness.

Measuring Readiness: Inputs versus Outputs

I often say that when you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind: it may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of science, whatever the matter may be.

—Sir William Thompson (a.k.a. Lord Kelvin)

The way the US military thinks about readiness is driven in no small part by the way it measures readiness. Current readiness metrics focus on the inputs, such as flying hours, steaming days, tank miles, and training events. The military and Congress naturally focus on readiness inputs because they can monitor and control these directly through the budget. Readiness inputs are used as a proxy measure for the output—the ability of forces to perform the missions assigned to them. But an implicit assumption in this approach is that changes in the inputs will result

in corresponding changes in the outputs. Moreover, it assumes that the target levels of inputs set by the military are optimal to achieve the types and levels of readiness required by defense strategy. When thinking about how the military can most efficiently and effectively achieve readiness, the first step is to reexamine how readiness is measured.

Readiness Inputs

While readiness is often associated with training, key inputs to readiness also include people, equipment, supplies, and maintenance. People are an important input because a ready force requires units that are staffed with a sufficient number of skilled military personnel. Units must also have a sufficient quantity of equipment and supplies on hand, such as munitions, major weapons systems, and support equipment, and this equipment must have capabilities appropriate to the missions assigned and the threats the force is likely to face. Equipment must also be properly maintained so it will operate reliably and effectively when needed. Training is needed to ensure people know how to operate their equipment and perform the tasks assigned under realistic conditions.

Virtually every part of the defense budget contributes to readiness in one form or another, as shown in figure 1. Operation and maintenance (O&M) accounts are a central component of readiness, providing funding for training, equipment maintenance, and some supplies. Military personnel accounts fund the pay and benefits necessary to recruit and retain a sufficient number of quality people.⁹ Procurement and research, development, test, and evaluation (RDT&E) accounts fund the acquisition of equipment and supplies to ensure the force is equipped with weapons that are sufficient in quantity and capability. Together, these funding streams provide the basic inputs needed to produce a ready force.

Readiness funding is especially important at present given the fiscal constraints put in place by the Budget Control Act (BCA) of 2011.¹⁰ Due to congressional reluctance to reduce military compensation or close excess bases and facilities, the DoD will have little choice in this drawdown but to cut some combination of the size of the force (the number of people and units), the amount of training, the quantity of equipment and supplies on hand, the capabilities of the equipment it procures, and/or the maintenance of equipment. In other words, the key inputs to readiness—people, training, equipment and supplies, and maintenance—are likely to suffer.

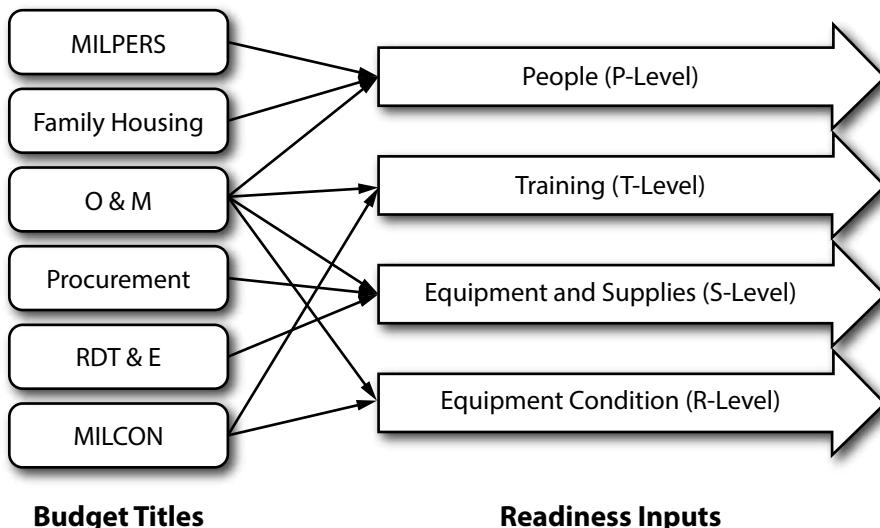


Figure 1. Mapping of budget titles to readiness inputs

The challenge for the Pentagon is to maintain balance among readiness inputs while attempting to fit within the resource constraints required by law and still support the strategy. When readiness inputs are out of balance, the result is what GEN Edward C. “Shy” Meyer famously termed a “hollow force.” In his 1980 congressional testimony, General Meyer used the term to reference the inadequate number of soldiers available to fill Army divisions, but the term has since expanded in its use.¹¹ In a 1993 report to Congress entitled *Going Hollow: The Warnings of Our Chiefs of Staff*, Senator John McCain summarized the meaning of a “hollow force” as follows:

Readiness is not a matter of funding operation and maintenance at the proper level. It is not a matter of funding adequate numbers of high quality personnel, it is not a matter of funding superior weapons and munitions, of funding strategic mobility and prepositioning, of funding high operating tempos, of funding realistic levels of training at every level of combat, or of funding logistics and support capabilities. Readiness is all of these things and more. A force begins to go hollow the moment [it] loses [its] overall mix of combat capabilities in any one critical area.¹²

While there is general agreement that a hollow force is one in which the inputs are out of balance, the question remains, what is the optimum balance of inputs? More specifically, how can readiness be measured so

the balance of inputs can be optimized over time to achieve the highest level of readiness possible with a given set of resources?

Current Metrics

The Status of Readiness and Training System (SORTS) has been used since 1986 to report the readiness of individual units across the services. The SORTS compares the level of inputs to target amounts determined by the services. Individual units are measured on a scale of one to four (with one being the best score) in four resource areas: personnel (P-level), equipment and supplies on hand (S-level), equipment condition (R-level), and training (T-level).¹³ The resource areas used in the SORTS map directly to the readiness inputs listed in figure 1. Units also report an overall score, called a C-level, which is equal to the worst score among the four resource areas; however, unit commanders have the discretion to raise the C-level by one increment if they believe it does not reflect the unit's true readiness.¹⁴

The SORTS scoring system is based on inputs rather than performance, as noted in the CJCS guide to the readiness system.¹⁵ The SORTS does not attempt to measure the ability of units to carry out the missions assigned to them. Instead, resources are used as a proxy—a stand-in measure—for performance. The SORTS assumes, by definition, that if all resource areas meet their target levels then a unit will be fully ready. It further assumes that the target levels of resources set by the services are correct, both in the total level required in each resource area and in the relative weighting of resources among the four areas. Yet the target levels could be excessive, insufficient, or irrelevant to actual readiness.

An additional difficulty with the SORTS is that the target levels set for each type of input do not account for substitution effects. For example, a unit with a shortfall in its target number of personnel but with excess funding in training could potentially compensate by cross-training personnel so individuals can fill multiple jobs. In some instances, a unit could increase overall training so a smaller number of better-trained personnel could achieve a level of readiness equivalent to a larger number of lesser-trained personnel. The input measures in the SORTS, however, do not account for this possibility, with the exception of commanders using their authority to raise the overall C-level of a unit subjectively.

In 1999, the DoD began developing the Defense Readiness Reporting System (DRRS) in response to criticisms and shortfalls in the SORTS.

The DRRS was initially intended to replace the SORTS but has since been modified to include SORTS metrics and improve upon the SORTS reporting system. Perhaps the most significant difference with the DRRS is the inclusion of a commander's self-assessment of whether a unit is ready to perform the missions and tasks assigned to it on a three-level scale: yes, qualified yes, and no. The DRRS also automates the calculation of the resource-level scores used in the SORTS according to the rules and target levels established by each of the services. The results are expressed on a scale of 0–100 rather than 1–4, as is the case with the SORTS C-ratings.¹⁶

The DRRS attempts to measure readiness more directly by asking commanders to assess unit readiness against the list of mission essential tasks assigned to each unit. A commander's self-assessment of his or her unit's readiness "incorporates a judgment about not only the specific resources and training a unit has but also other factors, such as morale or confidence, that are not quantitatively captured in the resources and training metrics."¹⁷ Self-assessments create an incentive for commanders to inflate unit readiness to avoid telling superiors that the unit under their command is unfit for combat.

Beginning in 1996, Congress mandated that the DoD provide quarterly reports on military readiness. The Quarterly Readiness Report to Congress is a classified report, typically hundreds of pages in length, which attempts to satisfy Congress' reporting requirements using data compiled from the services, Joint Staff, and Office of the Secretary of Defense (OSD).¹⁸ Of the 26 specific reporting elements set by Congress, none requires the DoD to report measures of readiness *outputs*—the ability of forces to perform the missions assigned to them.

As shown in table 1, each of the reporting elements set by Congress relates to readiness inputs or the overall readiness ratings generated by the SORTS and DRRS. For example, four of the reporting elements relate to the level of training, but none of them requires the DoD to report on the results of that training. Many of the items have a clear connection to readiness, such as equipment availability and mission-capable rates (i.e., the percentage of time equipment is capable of being used), but some items do not have a clear connection to readiness. For example, it is not readily evident how the age of equipment affects the readiness of forces using that equipment. If the average age of main battle tanks increases by one year, does that mean the readiness of armored units has

declined? Do fighter squadrons with 15-year-old aircraft perform better than squadrons with 20-year-old aircraft of the same type?

Table 1. Congressionally mandated readiness reporting requirements

Reporting Requirement	Corresponding Resource Area
Personnel status, including the extent to which personnel are in positions outside of their specialty and/or above their grade	Personnel
Historical data and projected trends in personnel strength and status	
Recruit quality	
Borrowed manpower	
Personnel stability	
Personnel morale	
Recruiting status	Training
Training unit readiness and proficiency	
Training operations tempo	
Training funding	
Training commitments and deployments	Equipment and Supplies
Deployed equipment	
Equipment availability	
Availability of ordnance and spares	
Equipment that is not mission capable	Maintenance
Age of equipment	
Condition of non-pacing items	
Maintenance backlog	
Status of prepositioned equipment	
Overall readiness rating for units rated C-3 or below for the quarter and each month of the quarter by unit designation and level of organization	Overall Readiness Ratings
Resource areas that adversely affected the readiness rating for units rated C-3 or below	
Each readiness problem and deficiency identified using internal DOD assessments	
Planned remedial actions to address readiness problems and deficiencies	
Key indicators and other relevant information related to each identified problem and deficiency	
Readiness of the National Guard to support the National Response Plan in support of civil authorities	
Reasons why the unit received a readiness rating of C-3 or below	

Source: Government Accountability Office, *Military Readiness: Opportunities Exist to Improve Completeness and Usefulness of Quarterly Reports to Congress* (Washington: GAO, 2013), 5.

A 2013 GAO report faulted the DoD for not fully and consistently complying with all of the reporting requirements set by Congress.¹⁹ This criticism, however, misses the larger point. The reporting requirements Congress established in law do not capture readiness outputs—the ability of forces to perform the missions and tasks assigned to them. By focusing on the inputs to readiness rather than the outputs, Congress is not requesting or receiving the information it needs to make informed resource allocation decisions. It is the equivalent of judging the performance of a baseball team by the size of its payroll (an input) rather than number of games it has won (an output). Teams with a larger payroll do not necessarily win more games. While the resources available to hire more talented players can certainly affect the performance of a team, just as readiness inputs logically affect readiness outputs, many other factors can be at work as well.

The Circular Logic of Readiness

Reporting the status of readiness using inputs creates a circular chain of logic when those reports are used to justify the inputs required. In other words, the readiness reporting system is used to justify a certain level of readiness inputs, but the readiness reporting system is merely a measurement of the inputs it is used to justify. This approach implicitly assumes that outputs are directly proportional to inputs—that is, if the inputs increase, readiness will increase.

As the DoD noted in its most recent budget submission, the inputs to readiness are “non-linear variables [that] work together to produce ready forces.” Numerous studies have established a nonlinear relationship between training and performance for a variety of jobs in the military, with the best correlation often being a power law or $\log(n)$ function.²⁰ Nonlinear systems can behave in complex and unexpected ways because the output is not directly proportional to the input. For example, increasing the flying hours of a squadron could harm its readiness if crews are forced to fly to the point of fatigue. In practice, a pilot’s flying time is limited in both the military and commercial aviation because excessive flying has been shown to reduce performance and increase accident rates.²¹

Nevertheless, the DoD has continued the circular logic of using inputs to justify inputs when appealing to Congress for readiness funding. For example, in congressional testimony on the effects of sequestration on readiness, Deputy Secretary of Defense Ashton Carter testified that

“The consequences of sequestration and a lowering of the discretionary caps are serious and far-reaching. In the near-term, these reductions would create an immediate crisis in military readiness.”²² As evidence of a readiness crisis, he offered the following examples:

- The Army would have to cancel as many as five “full-spectrum training rotations” and “reduce maintenance for units that are not scheduled to deploy to Afghanistan.”
- The Air Force would “be forced to cut flying hours sharply and will reduce remaining weapon system sustainment funding by about 30 percent.”
- The Navy and Marine Corps would be forced to cut back on “fleet operations.”²³

In each of these examples, the specific reductions cited are reductions in the inputs to readiness. The Army would be forced to reduced training and maintenance; the Air Force would be forced to reduce flying hours and sustainment funding; and the Navy and Marine Corps would be forced to cut peacetime operations. The department is essentially arguing the obvious—a reduction in readiness inputs will result in a reduction in readiness outputs. While it is generally accepted that cuts in readiness inputs will harm readiness outputs, it is not clear how much harm would be done. By not reporting measures of readiness outputs—the ability of forces to perform the missions assigned to them—it is difficult for the DoD to make a compelling case for maintaining readiness funding.²⁴

Toward Better Metrics

The revolution in baseball ushered in by Billy Beane’s Oakland A’s began decades earlier as an attempt to rethink baseball metrics. In 1977, Bill James, who had served briefly in the Army and was working as a night security guard, published his first book, the *Bill James Baseball Abstract*.²⁵ In this book, and in subsequent editions, James questioned some of the basic metrics used in baseball, such as runs batted in, errors, and batting averages, to measure a player’s performance and, by extension, his value. James pointed to the inadequacy of these measures, writing that “baseball statistics are not pure accomplishments of men against other men . . . they are accomplishments of men in combination with their circumstances.”²⁶ In his annual *Baseball Abstract*, James began to

develop useful and relevant metrics to answer some of the most important questions in baseball, such as how much an individual player contributes to the overall success of his team. It was a pragmatic approach born at just the right time—skyrocketing baseball salaries meant more was at stake for the teams, and advances in computing power in the 1970s and 1980s meant that large volumes of data were easier to accumulate and analyze.²⁷

In many ways, the US military may now be at a similar turning point when it comes to readiness. The cost of readiness—training, staffing, equipping, maintaining, and operating forces—has grown to the point that the DoD cannot maintain the size of force it has today with the budget constraints Congress has placed on it.²⁸ At the same time, advances in data networks, data storage, and sensors mean that information on the maintenance and utilization of equipment as well as the performance of personnel using this equipment can be collected, tracked, and analyzed in ways that were not possible just a few years ago. The military appears to be entering an era of increasingly constrained resources and unconstrained data, therefore, the way it measures readiness should adapt to these changing circumstances.

A “big data” approach to measuring readiness is only useful if the metrics being collected help answer important questions, such as how do readiness inputs affect the ability of forces to perform the missions assigned to them? Current metrics are not particularly useful in this respect. The SORTS method of measuring readiness is based on inputs, and thus it sheds little light on how readiness inputs affect outputs. The DRRS is largely based on input measures as well since it incorporates and aggregates SORTS data. The exception in the DRRS is the commander’s self-assessment of unit readiness using a three-tier scale: yes, qualified yes, or no. At the discretion of the commander, this self-assessment may or may not be based on a unit’s actual performance in operations or in training exercises.²⁹ At best, the DRRS offers a subjective, low-fidelity measure of readiness. Subjective self-assessments of readiness are like judging the performance of baseball players by asking their coaches how they are doing instead of keeping track of key statistics of their actual performance, like hits and on-base percentage. What the military needs is a box score for readiness—quantitative measures of the relevant performance attributes of forces.

Strategy-Based Metrics

Betts' questions of readiness for what, readiness for when, and readiness of what should drive the development of strategically relevant readiness metrics. Readiness metrics should measure the ability of forces to perform the missions and tasks assigned to them by the strategy. Each unit's mission essential task list (METL) specifies the tasks it is expected to perform as part of its core capabilities and to support top-priority plans and named operations in the strategy. As the strategy changes and evolves, these tasks can change, and readiness metrics should adapt as well.

As an example of how readiness metrics should flow from overall strategy, consider a tactical fighter unit. A hypothetical strategy could require the military to be prepared to fight a major theater war, which could include attacking military targets defended by enemy fighters and ground-based air defenses. A mission for an Air Force fighter squadron under this strategy could include being able to penetrate enemy defenses, deliver the attack, and recover to base, all at a specified level of proficiency. Mission essential tasks could include air-to-air combat to defeat enemy fighter defenses and low-altitude navigation and bomb delivery to avoid ground-based defenses. Key readiness metrics for a fighter squadron with these assigned tasks should therefore include measures of how effective fighter crews are in air-to-air combat and low-altitude bombing. Measuring bomb delivery ability is relatively straightforward and quantifiable using bomb miss distances in training exercises. Air-to-air combat skills are more difficult to quantify objectively, but the performance of fighter crews can be measured in simulated air-to-air missile launches during combat training missions using recordings of aircraft heads-up display data to assess whether a missile launch was within established launch parameters.³⁰

The purpose of strategy-based metrics is to measure how capable units are in performing the mission essential tasks assigned to them by the strategy. These metrics should provide a greater level of fidelity than the simple yes, no, or maybe self-assessments used in the DRRS and should be based on objective measures whenever possible. Metrics must also adapt over time as strategy, technology, and forces change. As Barry Watt and James Roche have noted, "technological and other changes can erode the appropriateness of the criteria by which we have become accustomed to assessing a given category of weapons or forces."³¹

An unavoidable challenge in developing readiness metrics is that one must quantify what in many cases is a combination of quantitative and

qualitative factors. The resources Congress appropriates for defense each year are inherently quantified in dollars. Since the purpose of measuring readiness is to understand how these inputs can be best allocated to achieve a desired output—the trillion dollar question—one must have a quantifiable measure of that output, even if it is merely a subjective assessment on a numeric scale. If one cannot quantify the output and know if it has increased or decreased by some amount, then one cannot know if the inputs applied are sufficient or insufficient. As Lord Kelvin adroitly noted, “when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind.”³² To be useful in understanding how readiness inputs affect readiness outputs, metrics should enumerate the *degree* of one’s ability to perform assigned tasks.

The level at which readiness data is collected (individual, unit, combined unit, or joint force) should be whatever level is relevant to the strategy and most practical for collection. For some parts of the force structure, such as a fighter pilot’s ability to hit targets, individual readiness may be important and measurable. In contrast, it may only make sense to measure readiness at the unit or combined unit level for combined arms operations.

Performance scores from training events are one potential source of readiness data since these events should already be testing the missions and tasks assigned to particular units, including all of the supporting tasks needed to accomplish assigned missions. In many cases, the services already conduct the necessary testing as part of routine training exercises—they merely need to record, aggregate, and report the scores. Units also routinely engage in competitions to test their skills against other units. In Air Force fighter squadron bombing competitions, for example, units from across the force compete in various bombing categories.³³ Rather than reporting readiness inputs, like flying hours and maintenance levels, the DoD should be reporting readiness outputs, like average bomb miss distances.

Periodic testing of individual and unit-level proficiency will also need to be conducted independent of major training events and competitions because the very act of being measured can alter one’s performance—a phenomenon known as the observer effect. For example, in preparation for a major training exercise, such as an Army National Training Center rotation, units often increase their level of readiness by increasing training, reassigning personnel to fill vacancies, and taking equipment and supplies from other units. Units that have recently been through a major

exercise may also experience a post-exercise reduction in readiness due to the stress and fatigue of the exercise itself and the loss of personnel and equipment temporarily loaned to the unit. To account for the observer effect—or even better, to measure the observer effect—units should periodically be tested at random with minimal notification given and restrictions placed on what they can borrow from other units.

Despite one's best attempts, readiness metrics will never be perfect measures. Measuring the performance of forces in realistic combat scenarios is not a perfect substitute for performance in actual combat. In war, outcomes are not solely determined by the readiness of US forces, or more specifically, the performance of forces in the mission essential tasks assigned to them. In air-to-air combat, for example, success may be a function of many factors beyond the pilot, such as jamming provided by other aircraft or the capabilities of enemy air defenses. In addition, forces are also often tasked in wartime to perform missions they were not designed to perform and for which may not have been trained. Combat outcomes can only be assessed through actual warfare, and readiness is just one of many contributing factors. The best that one can achieve with peacetime readiness assessments is an *approximation of performance* short of actual military operations.

For these reasons, readiness metrics will never be a perfect predictor of how forces will perform in actual combat. Rather, the goal should be to develop metrics that come closer to measuring the relevant performance characteristics of the force and to continue improving and refining these metrics over time. The most important criteria for readiness metrics are that they should (1) measure outputs rather than inputs, (2) be linked to the strategy, (3) be quantifiable, and (4) avoid subjective assessments (particularly self-assessments) where possible. Most importantly, readiness metrics should be developed that help answer the trillion-dollar question: how can the military most effectively achieve the readiness required by its strategy?

Why Outputs Matter: A Case Study in Air-to-Air Combat Skills

In a 1999 RAND report, Dr. John Stillion examined the effects of training and experience (readiness inputs) on the ability of fighter pilots to perform certain mission essential tasks (readiness outputs). One of

the specific areas examined was air-to-air combat skills, which is perhaps the most mentally and physically demanding skill required of fighter pilots. As Stillion notes, air-to-air combat can be compared to “simultaneously playing the piccolo, driving a formula-one race car, and bench pressing 200 pounds.”³⁴

The data analyzed in the study included 137 simulated air-to-air missile launches recorded during training missions for a particular fighter squadron from 1 October 1997 to 28 February 1998. Videos of the pilots’ heads-up displays were used to determine whether the launching and target aircraft were within the proper parameters (e.g., range, velocity, angle, etc.) for a missile to be effective. Of the 137 shots recorded, 19 were assessed to be invalid, meaning the missile would have likely missed its target.³⁵

Stillion identified a statistically significant correlation between the number of days since a pilot’s most recent practice missile launch and the probability of a valid shot. Interestingly, the analysis did not find a statistically significant correlation between the performance of pilots who were instructors versus non-instructors—a proxy measure for experience and overall skill level. What seemed to matter most was recent practice in air-to-air combat. The analysis showed a “strong logarithmic relationship between the probability a pilot launches an out of parameters simulated air-to-air missile shot and the number of days since he last exercised his air-to-air combat skills.” Pilots who had practiced simulated missile launches within the past 10 days had an average hit rate of 93 percent, whereas pilots whose most recent practice was a month or longer had an average hit rate of 78 percent.³⁶

The type of flying performed—specifically, the amount of practice in air-to-air combat—appeared to affect air-to-air combat skills more than the total number of hours flown or experience. Pilots who had longer gaps between simulated missile launches were still flying, perhaps more hours in some instances, but these hours did not include practice in air-to-air combat. Moreover, the analysis found that air-to-air combat practice must be relatively recent to have a significant impact on performance. Overall experience levels and practice conducted more than 30 days prior did not appear to affect performance as much as practice within the past 10 days.

This type of analysis is only possible when readiness metrics are used that measure the actual performance of forces. If flying hours were used

as the measure of readiness instead of missile hit rates, then readiness in this case study would have appeared to increase when more hours were flown and decrease when fewer hours were flown. It would not have revealed that readiness for air-to-air combat depends on a specific type of flying and how recently that training was conducted. Using inputs as readiness metrics can obscure the true readiness of forces to perform the missions and tasks assigned to them.

Resourcing Readiness: An Experimental Approach

Human knowledge and human power meet in one; for where the cause is not known the effect cannot be produced.

—Sir Francis Bacon

In a 2011 study, the Congressional Budget Office (CBO) concluded that the DoD has not been able to identify a clear link between readiness spending and actual readiness, noting that “the military’s current measures of readiness are not readily applicable to such analyses, and there are some concerns about the quality of its assessments of readiness.”³⁷ Without a firm grasp of the causal relationships between inputs and outputs, readiness may be underfunded, overfunded, or out of balance and exacerbated by sequestration. The result could be a hollow force, or worse, a hollow force masked as a ready force. Disentangling the many cause-and-effect relationships among readiness inputs and outputs is a challenging task requiring the tools of science.

The Military as a Complex System

The military can be viewed as a complex system that in peacetime transforms resources (inputs) into ready forces (outputs). Because this transformation involves a set of interactions among the inputs, many of which may be nonlinear, the output can at times appear random or unexpected. An additional complexity is that the system itself is dynamic. The rules by which it is governed are constantly changing as technology, threats, operational concepts, and the military itself change.

For example, unmanned systems such as the RQ-4 Global Hawk can loiter for longer periods than manned aircraft, with flights lasting 32 hours or longer. This capability enables new missions for the military,

such as the ability to provide continuous surveillance over wide swaths of territory that would not be logistically feasible with manned aircraft. The relationship between readiness inputs and outputs is fundamentally different for unmanned systems because simulators can provide realistic training for pilots, reducing the need for costly training flights. This reduces not only the cost of training, but also the number of platforms procured for training and the number of support personnel needed to operate and maintain training platforms. The readiness costs of using an unmanned system, once these training and personnel savings are factored in, can be half that of a comparable manned system.³⁸

Moreover, with increasing levels of automation, a single operator can control (or monitor) multiple unmanned systems simultaneously, further reducing personnel requirements and the associated training pipeline. Fully autonomous systems and the robotics revolution taking hold in the military have the potential to flip the notion of readiness on its head. While humans require regular practice to maintain certain skills, once software is written and tested, it does not need recurring practice because its abilities do not degrade with time.

Like many complex, dynamic systems, military readiness does not readily lend itself to simple models. As Betts noted, “good models of operational readiness are difficult to formulate because their subject is in large part an ecological phenomenon, a jumble of vectors whose inter-dependencies are hard to trace or isolate.”³⁹ This makes it difficult to establish causal relationships between the resources allocated to readiness and the performance of forces. While models are a useful tool in understanding readiness, models alone are insufficient to capture such a complex and ever-changing system.

Fortunately, unraveling the many causal relationships among readiness inputs and outputs does not require an understanding of the precise interactions that occur within the military system. Like many complex systems, these internal mechanics can be regarded as what is commonly referred to as a “black box.”⁴⁰ One does not need to know what goes on within the black box to develop a functional understanding of how it transforms inputs into outputs.

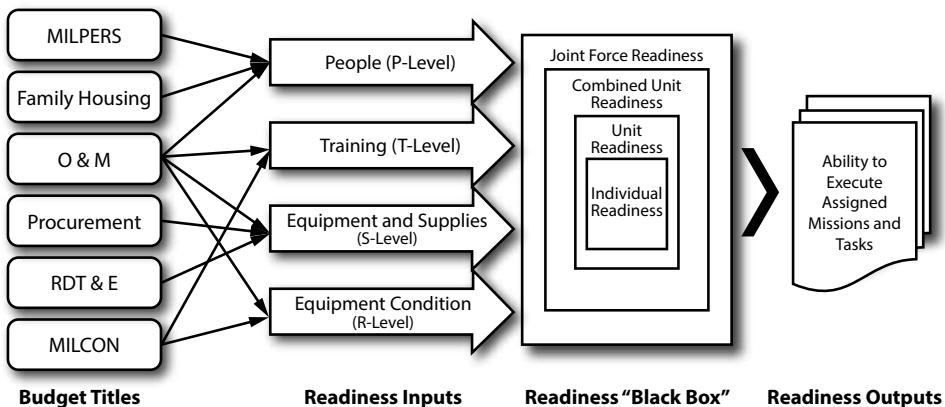


Figure 2. Military readiness as a “black box”

Consider how the knowledge of other complex systems, such as the human body, has advanced without understanding the precise mechanisms by which these systems work. Aspirin, one of the most commonly used drugs in the world, was developed thousands of years ago without any real understanding of how or why it relieved pain, fevers, and inflammation. Salicylic acid, the active ingredient in aspirin, can be derived from the bark of willow trees. The earliest known reference to the use of willow bark for medicinal purposes is a stone tablet from the Ur Dynasty in Mesopotamia dating to around 3000 BC. The same tablet also included references to using magic and spells as cures for common illnesses.⁴¹

Aspirin was discovered through 5,000 years of trial and error. People looked for an input to the human body that would produce a desired output: relief from pain, fever, and inflammation. The human body was treated as a black box, only knowing that a certain input produced a certain output. The mere fact that willow bark produced a desirable effect meant that its use was passed down from one generation to the next, while other treatments that did not work, such as magic and spells, were eventually abandoned. The active ingredient in willow bark was not isolated and synthesized until the nineteenth century AD, and even then, its makers did not understand how or why it worked. Only in the 1970s did scientists begin to unravel the precise chemical pathways through which aspirin interacts with the human body to produce its desired effects.⁴²

A “New Method” for Resourcing Readiness

Nearly 400 years ago, Sir Francis Bacon challenged other scholars to apply a more rigorous approach to developing theories for complex systems, such as nature. As Jim Manzi notes in his book, *Uncontrolled*, Bacon recognized that nature is “extraordinarily complicated as compared to human mental capacities,” and that “humans tend to over interpret data into unreliable patterns and therefore leap to faulty conclusions.”⁴³ Perhaps Bacon’s most important insight was that scientists should focus their energies on developing practical rules that approximate how the world works rather than trying to discern philosophical truth.⁴⁴ Others built upon Bacon’s revolutionary ideas to develop what is known as the scientific method—a process that effectively compresses the amount of time it takes to determine cause-and-effect relationships. Instead of taking thousands of years of trial and error to determine the efficacy of medicines like aspirin, it now takes only a few years of randomized controlled trials.

Experiments have also proved valuable in understanding social phenomena, such as how humans make decisions. In the 2012 election, the Obama campaign used randomized controlled experiments to test the effectiveness of everything from phone scripts and flyers to the subject lines of e-mails seeking donations.⁴⁵ Companies test marketing strategies by conducting experiments so they can more accurately predict customer behavior and fine-tune their messaging and targeting of customers. For example, Target has developed the ability to identify when women are pregnant in their second trimester and send them relevant coupons based on changes in their shopping behavior.⁴⁶ Experiments were also used to measure the effectiveness of a counterinsurgency program in Afghanistan, the National Solidarity Program. Villages were randomly selected to participate in the program, and the experiments showed it was effective in reducing the level of violence, but only in villages that were relatively peaceful already.⁴⁷

Understanding a complex technical and dynamic social system like the military requires an iterative and dynamic process much like Bacon’s *Novum Organum* (“New Method”). This process, as applied to military readiness, is shown in figure 3. It begins with the collection of relevant readiness metrics. Statistical analysis of this data is used to identify trends and correlations, which form the basis for building theories and associated models of readiness. These theories yield hypotheses for how

the system works, which are tested through experiments that control for other variables not being tested. The results of these experiments produce new data to update readiness theories and models and produce more hypotheses for testing. The following section describes how such an iterative process can be used to build a better understanding of the causal links among readiness inputs and outputs.

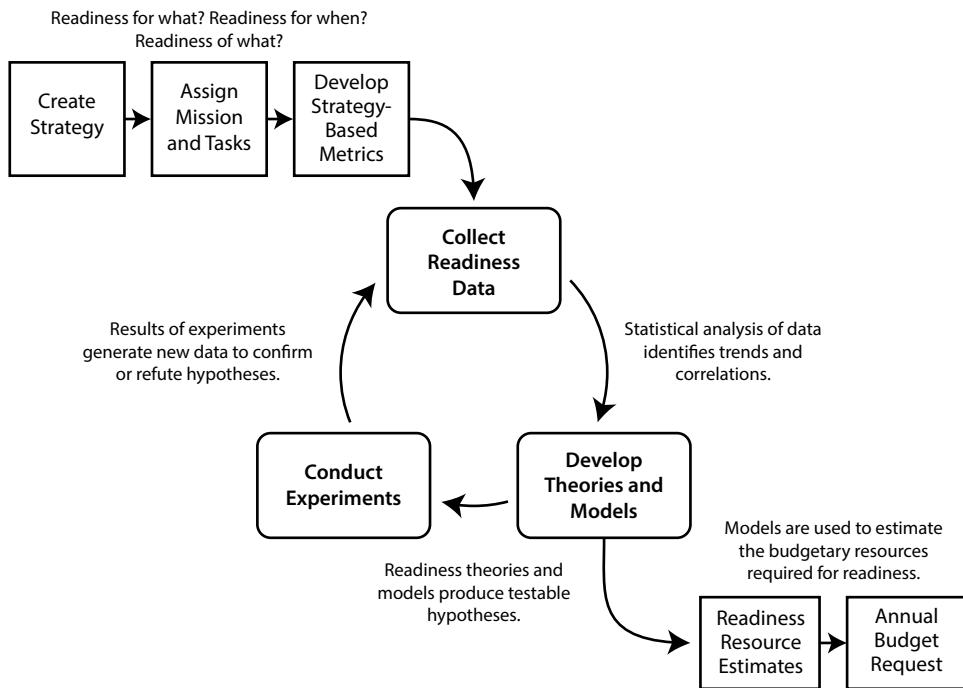


Figure 3. Proposed method for linking readiness inputs to outputs

Collect Readiness Data. At the most basic level, understanding the relationship between readiness inputs and outputs begins with data collection. For data to be useful, they must be based on relevant metrics. The current understanding of readiness is limited by the lack of strategy-based metrics collected, aggregated, and reported on a widespread basis. Many modern weapon systems automatically record a tremendous amount of data for maintenance and training purposes. This data could be repurposed to measure operator and system performance, and software could be modified to collect additional data if needed.

The collection of data over time allows for statistical analysis and the observation of natural experiments. Natural experiments occur when one

or more inputs are varied in part of the force for reasons unrelated to the collection of data. This allows for a comparison between units whose inputs were altered and those whose inputs were not. Natural experiments are not a substitute for randomized controlled experiments, because the reason units are selected to have their inputs changed may be due to factors that bias the outcome. For example, if a service has a shortfall in training money it may deliberately chose to cut training for units that are already in a depressed state of readiness to protect the readiness of its top-tier units.

Develop Theories and Models. Statistical analysis of readiness data can identify correlations and form a preliminary assessment of which variables seem to matter and which do not. Statistical analysis can also show which inputs are most closely correlated with which types of readiness outputs and quantify the sensitivity of outputs to changes in the inputs. Through inductive reasoning, many specific observations can be used to build a broader and more generalized theory of readiness.

A readiness theory is a set of basic ideas and principles for relating readiness inputs to outputs—an intellectual framework for thinking about the problem. A readiness model puts these ideas into practice by codifying them in formal mathematical relationships. Because of the complexity involved, it is impractical and indeed unnecessary to build a single theory or model of readiness that encompasses all parts of the force. The structure, capabilities, and resources of units vary widely across the military, and the missions assigned to units can differ considerably. Different types of units require different theories and models of readiness.

The difficulty in using historical data as a basis for generating theories and models is the problem of counterfactuals. Natural experiments and historical data reveal what happened under a particular set of circumstances. This type of data cannot reveal what would have happened had the inputs or circumstances been different. Other variables not being measured or controlled for—known as hidden conditionals—could be the actual cause of any observed correlation.⁴⁸ More observations collected over time can build stronger correlations and suggest modifications to readiness theories and models, but correlations alone cannot establish a causal link between readiness inputs and outputs. Moreover, correlations can be misleading when used outside the bounds of previous observations.

Despite these limitations, readiness theories and models are important for two reasons. First, models provide a practical way of estimating the resources required using the best available understanding of readiness. The military must submit an annual budget request each year, and nearly every part of the budget is related in some way to readiness. Readiness models provide an imperfect but rational basis for estimating what resources are needed and in what proportions. However, readiness models should always be held as provisional and subject to revision as additional data become available.

Readiness theories are important because they provide a broad framework for understanding how the system behaves, from which specific, testable hypotheses can be generated. A testable hypothesis is a predictive statement specific enough that it is possible to design an experiment that proves it wrong—it is falsifiable. Strictly speaking, experiments can never prove a hypothesis and its associated theory true. Rather, experiments can show that a theory has passed numerous falsification tests. The lack of falsifying evidence builds confidence that a theory is true and is therefore more likely to be reliable in practice.⁴⁹

Conduct Experiments. The third component of the process, and arguably the most important, is to test specific hypotheses using randomized controlled experiments in which inputs are varied and the resulting outputs are measured. Controlled experiments, as opposed to uncontrolled, assign part of the subjects being tested to a control group in which the inputs are not varied. Control groups are essential for understanding the counterfactual of what would have happened had the inputs not been changed. Randomization is important because randomly assigning units to the test and control groups helps isolate the effects of hidden conditionals that could bias the results. Blinding prevents those being tested and those assessing the results from introducing their own biases to the experiment. In a double-blind experiment, for example, neither the subjects nor those running the experiment know which subjects fall into the test and control groups. Multiple independent experiments can also help reduce the chance of hidden conditionals or biases affecting the results.⁵⁰

The process of testing readiness theories creates a self-correcting feedback loop to continually refine and update one's understanding of readiness, including the readiness metrics being used. If prior assumptions about the relationships among readiness inputs and outputs are correct,

these assumptions should stand up to the scrutiny of rigorous experiments. One may find, however, that these assumptions do not hold true or that the readiness output metrics initially selected are not appropriate measures for the types of readiness required by one's strategy. When experiments yield results inconsistent with current readiness theories, they should not be regarded as failures. Rather, the goal of conducting experiments is to find such counterexamples so theories, models, and metrics can be revised to reflect reality more accurately. As Manzi notes, the process is referred to as "trial and error" not "trial and success."⁵¹

Comparison to Current Method for Resourcing Readiness

Figure 4 shows the current method for resourcing readiness in the same framework as the new method proposed in this article. As shown in the gray-shaded areas, the current method for resourcing readiness lacks two key components: strategy-based metrics and experiments to test hypotheses.

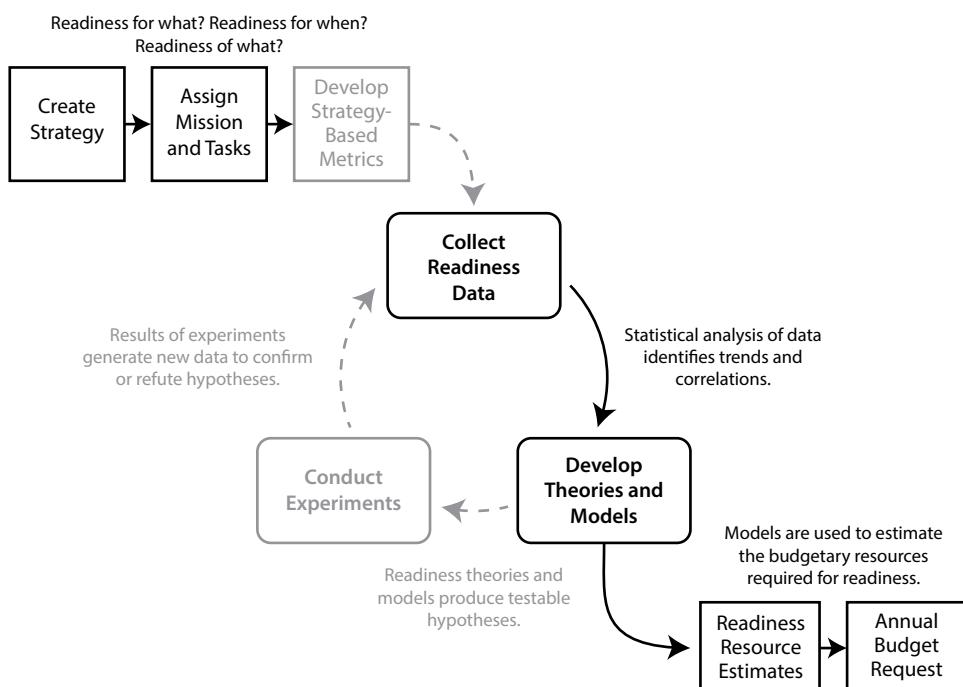


Figure 4. Gaps in current method for resourcing readiness

Strategy-based metrics are vital because they connect strategy, assigned missions, and mission essential tasks to the readiness data being collected and analyzed. Nearly all of the readiness data collected now through the SORTS and DRRS are not connected to the strategy and are in fact measures of readiness inputs rather than outputs. These metrics provide little insight into the ability of forces to perform the missions assigned to them. Without this link between strategy and readiness metrics, the military may be collecting the wrong readiness data, which in turn leads to theories and models that produce erroneous or unjustifiable resource requirements.

Without experiments, readiness models must rely on correlations identified through statistical analysis of historical data. While this analysis is useful, correlations cannot prove causal relationships because they cannot account for hidden conditionals that may be the underlying cause of any observed correlations. Controlled experiments help isolate the underlying causal relationships between inputs and outputs. Conducting such experiments is also necessary to create a self-correcting feedback loop to account for the complex and dynamic nature of the military. Without a feedback loop, the military could miss disruptive shifts in the conduct of war, such as the introduction of new technologies and operational concepts or the emergence of new threats. An experimental approach allows readiness theories and models to accommodate such changes more quickly.

The current DoD method for resourcing readiness starts with the wrong metrics, lacks experimental data to isolate causal effects, and does not have a continuous feedback loop to update and refine readiness theories and models. Without these important steps in the process, the DoD is operating with significant blind spots when it resources readiness. The military could be significantly overfunding or underfunding readiness without knowing it. Worse still, it cannot reliably predict how changes in resources will affect readiness.

The lack of good readiness data naturally makes the military resistant to changes in readiness resources. The current balance of inputs—people, training, equipment and supplies, and maintenance—was crafted through years of war-fighting experience, and these inputs appear to work, as is evident by the high performance of US forces in recent military operations. However, this does not mean the current levels of inputs are optimum or efficient. Moreover, what worked in the past may not work in the future, because future wars may be fundamentally different.

As resources become more constrained, the DoD will likely be forced out of its current balance, whether by another sequester or more deliberate changes to strategy and resources. The accumulated wisdom resident in today's military for what is needed to produce a ready force should not be dismissed or disregarded. Rather, it should be the starting point for developing a more robust and adaptive method for resourcing readiness. A more rigorous method for resourcing readiness allows for the possibility that the conventional wisdom guiding these resource decisions may be wrong, may be right but suboptimal, or may be right only under certain conditions.

Why Experiments Matter: Revisiting Air-to-Air Combat Skills

In Stillion's case study of fighter pilot air-to-air combat skills, the data collected was from a single fighter squadron (the Air Force's 4th Fighter Squadron) operating a single platform (F-16Cs) over a five-month period.⁵² When the pilots went more than a month without any simulated air-to-air missile launches, it was because they were deployed to Saudi Arabia to conduct patrols of the no-fly zone in Iraq.⁵³ While deployed, the pilots did not practice their air-to-air combat skills; they flew racetrack patterns in the skies over Iraq.

This data was used because it was the best data available at the time and was a natural experiment worthy of analysis. The conclusions derived from this data beg several follow-on questions. Was it the lack of practice that caused pilots' combat skills to degrade or something else related to the deployment, such as a drop in morale from long family separations? Was there some other factor at work in this particular squadron that could have caused the decline in performance? Perhaps the 4th Fighter Squadron was already a low-performing squadron relative to others, and its air-to-air combat skills were fragile to begin with. Or perhaps there was a change in squadron leadership or equipment maintenance following its deployment that affected performance. It is thus possible that the pilots' skills would have declined even if they had continued practicing their air-to-air combat skills while deployed.

Historical data cannot demonstrate what would have happened had the situation been different—the counterfactual. Controlled experiments can. To test whether the observed decline in air-to-air combat

skills was caused by a lack of recent practice, one could devise several experiments to increase the confidence that a lack of recent practice was the causal factor in declining performance. One experiment could randomly assign fighter pilots from multiple squadrons into test groups and a control group. The test groups would get practice at different frequencies ranging from less than 10 days between training for one group to several months between training for another group, while those assigned to the control group would continue their normal training and deployment routine. Randomly assigning pilots to test and control groups helps account for any hidden conditionals that may be at work, and using a control group provides a reference for what would have happened had no changes been made. Another experiment could randomly assign pilots deployed to the no-fly zone to a test group that receives regular air-to-air combat training while deployed or a control group that does not.

The data collected from the 4th Fighter Squadron shows that air-to-air combat skills appear to degrade quickly and to recover quickly. This suggests a “10-day rule” for air-to-air combat, akin to Britain’s 10-year rule in the interwar period, and presents a testable hypothesis: As long as US forces have at least 10 days warning before engaging in air-to-air combat operations, these skills can be maintained at a low level in peacetime and ramped up quickly when conflict is imminent. If true, such an approach would save significant resources during peacetime that could be redirected to other priorities, such as equipment modernization.

While it would be foolish to adopt a 10-day rule as policy based on such a narrow dataset, experiments could be used to test this hypothesis before deciding whether to apply it widely across the force. For example, one could test whether pilots with longer gaps in air-to-air combat practice require more time and training to regain their competence. One might discover a breaking point, perhaps several months or years, at which more than 10 days of training must be conducted to regain skills. Similarly, one could test whether the overall experience of pilots (i.e. how much accumulated training they have had) affects how quickly their skills can be recovered.

Of course, experiments are not always possible, particularly large-scale, randomized controlled experiments, and performance in training is not a guarantee of performance in actual combat. Success in air-to-air combat, for example, depends on many factors outside the control of a

fighter squadron, such as the effectiveness of jamming from other platforms and intelligence on enemy air defenses. While there is no perfect solution, there is certainly room for improvement in the current approach to resourcing readiness. The point is to introduce a mechanism for testing hypotheses by the best means available and refining readiness theories and models based on the results. Just as it would be wrong to assume that a 10-day rule would work without supporting experimental evidence, it is equally invalid to assume that current training regimens are necessary. Readiness theories not subject to regular testing and refinement are essentially educated guesses.

Conclusion

Even without the pressures of austere defense budgets, readiness is too important to ignore and too complex for guessing. The US military needs a more robust and adaptive approach to understanding readiness, particularly in an era of increasingly constrained resources. Such an approach begins with strategy-based metrics that identify the important readiness outputs to measure and includes controlled experiments to test hypotheses and continually update readiness models. The purpose of this approach is to answer the trillion-dollar question: how can the military most effectively achieve the readiness required by its strategy?

The chief recommendation of this article is that both the DoD and Congress should revisit the way readiness is measured and resourced. The DoD should use existing METLs to identify the key tasks required of each unit in support of overall defense strategy. From these key tasks, it should develop quantifiable performance measures, using objective standards where possible, and report this data both internally and to Congress. Congress should review these strategy-based metrics, determine which are most useful for oversight and resource allocation, and amend the quarterly reporting requirements in Section 482 of Title 10 of the US Code to include these metrics. Once strategy-based metrics are in place, each of the services should conduct controlled experiments to test existing hypotheses for how resources affect readiness. Moreover, the services should institutionalize the process of developing hypotheses, conducting experiments, and continually refining readiness theories and models.

Now is the perfect time to rethink how readiness is funded, because budgetary and legislative constraints are likely to force the military to

cut readiness resources. Rather than making these cuts based on pre-conceived notions of what will have the least impact on readiness, the DoD should use this occasion to test such hypotheses and collect data. The coming readiness crisis is an opportunity for the DoD to fine-tune its understanding of readiness so it can squeeze the maximum military advantage out of each defense dollar.

For the military to rethink readiness, it must change its process, metrics, and, perhaps most critical of all, its culture. Rethinking readiness requires a culture of experimental inquiry that encourages leaders to question everything they think they know about resourcing readiness, including what factors matter, what factors do not matter, and how much readiness is enough.

Clearly, improved readiness metrics and a better understanding of the causal relationships among readiness inputs and outputs are not a cure-all for the challenges the US military faces due to sequestration. Better metrics and experimental data cannot compensate for a poor strategy, a force that is mismatched to the strategy, or resources that are insufficient to execute the strategy. A more effective allocation of resources, however, can give the United States a significant fiscal and military advantage by enabling it to afford a larger, better-trained force for a given level of resources or the same size force at a lower level of resources. Greater efficiency in the allocation of military resources can be a source of enduring strategic advantage.

If the US military does not take advantage of this opportunity to rethink how it resources readiness, an adversary may do so and use its readiness advantage to challenge the United States in peacetime competition or in actual conflict. Rethinking readiness funding is not just about efficiencies and savings; it is a matter of maintaining the US military's preeminence as the best equipped, best trained, and most highly capable force in the world. **ISSQ**

Notes

1. If the Budget Control Act (BCA) caps currently in effect are extended through FY-2024, the DoD will receive roughly \$5.5 trillion over the next decade, not including war-related supplemental funding.

2. *The National Military Strategy of the United States of America* (Washington: DoD, 2011), 20.

3. *CJCS Guide to the Chairman's Readiness System* (Washington: DoD, 15 November 2010), 1–2.
4. Richard K. Betts, *Military Readiness: Concepts, Choices, Consequences* (Washington: Brookings Institution, 1995), 5.
5. *Ibid.*, 33.
6. *Ibid.*, 53–58.
7. Michael Lewis, *Moneyball: The Art of Winning an Unfair Game* (New York: W. W. Norton, 2004), 74–75.
8. For example, in the American Revolution a wealthy nation, the United Kingdom, was defeated by a less wealthy adversary in the Continental Army.
9. O&M also funds the military health care system through the Defense Health Program, which supports military personnel in the force.
10. The BCA established annual limits for the base defense budget through FY-2021.
11. Congressional Budget Office, *Trends in Selected Indicators of Military Readiness, 1980 through 1993* (Washington: CBO, March 1994), 2.
12. John McCain, *Going Hollow: The Warnings of our Chiefs of Staff* (Washington: Office of Senator McCain, July 1993).
13. *CJCS Guide*, 10. A rating of five is also possible for units temporarily taken out of service for reorganization or depot maintenance.
14. R. Derek Trunkey, “Implications of the Department of Defense Readiness Reporting System,” CBO Working Paper 44127, May 2013, 4.
15. *CJCS Guide*, 10.
16. Trunkey, “Implications,” 7–9.
17. *Ibid.*, 3.
18. Government Accountability Office, *Military Readiness: Opportunities Exist to Improve Completeness and Usefulness of Quarterly Reports to Congress* (Washington: GAO, July 2013), 5.
19. *Ibid.*, 7–8.
20. John Stillion, *Blunting the Talons: The Impact of Peace Operations Deployments on USAF Fighter Crew Combat Skills* (Santa Monica, CA: RAND Corp., 1999), 25–27, 46–48.
21. See Federal Aviation Administration, *Regulatory Impact Analysis: Flightcrew Member Duty and Rest Requirements* (Washington: Department of Transportation, 18 November 2011).
22. Deputy Secretary of Defense Ashton B. Carter, “Prepared Testimony for the House Armed Services Committee,” 13 February 2013, 1.
23. *Ibid.*, 8–9.
24. Congress allowed sequestration to go into effect two weeks after Deputy Secretary Carter’s testimony.
25. Lewis, *Moneyball*, 74–75.
26. *Ibid.*, 75–76.
27. *Ibid.*
28. The 2012 Defense Strategic Guidance explicitly addresses the tradeoff between readiness and capacity, saying, “we will resist the temptation to sacrifice readiness in order to retain force structure.” See *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense* (Washington: DoD, January 2012), 7.
29. Trunkey, “Implications,” 9.
30. Stillion, *Blunting the Talons*, 80–81.
31. James Roche and Barry Watts, “Choosing Analytic Measures,” *Journal of Strategic Studies* 14, no. 2 (June 1991): 167–68.

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33. For an example, see Christine Griffiths, "357th Fighter Squadron wins the 56th Fighter Wing 2012 Turkey Shoot," 355th Fighter Wing Public Affairs news release, Luke AFB, AZ, 30 November 2012.
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35. Ibid., 82.
36. Ibid., 82–83.
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50. Ibid., 30.
51. Ibid.
52. Stillion, *Blunting the Talons*, 80.
53. Ibid., 81–82.

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Budgeting for Austere Defense

Mackenzie Eaglen

From the moment the Budget Control Act (BCA) was signed into law three years ago, many—including the president—said its mechanism to force automatic spending cuts, known as sequestration, in the absence of a larger “grand bargain” would never happen. By design, sequestration was constructed as an outcome so unpalatable that it would prompt compromise over larger federal budget issues such as entitlements and taxes. As was argued at the time, sequestration spending cuts were too steep and too irresponsible to ever become law. According to then-secretary of defense Leon Panetta, the sequester was akin to “shooting ourselves in the head.”¹

The increasingly likely prospect of sequestration as the date drew near created a frenzy.² Politicians on both sides of the aisle denounced the action, the defense industry organized a well-funded and job-centric education and lobbying campaign to emphasize its economic consequences, and financial analysts scrambled to anticipate congressional action and how it would impact the bottom line for contractors.

But while the specter of sequestration loomed and all parties fretted, there was a growing readiness crisis at the Department of Defense (DoD). This challenge predates the debt limit deal of 2011 and would not be alleviated simply by rescinding the BCA—itself a daunting and unlikely proposition.

The problem is that it is impossible to identify which dollar broke the proverbial camel’s back when it comes to military readiness. It cannot be clearly attributed to any one moment or any single decision. Rather, the US military appears to have crossed the “invisible redline” of precariously reduced readiness as former chief of staff of the Army, GEN George Casey, once warned against.³ Because it is hard to pinpoint when the subjective threshold was crossed, policymakers have been lulled into favoring false solutions that do not fully match the scope of the problem with an adequate answer.

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Policymakers must attempt to trace the impact of the Budget Control Act—not just sequestration—upon the military both now and into the future. Only by chronicling how Congress and the president have enacted austere defense spending and adjusted defense cuts through today and understanding how those translate in real ways for the Pentagon can leaders draw lessons from the current impasse while proposing realistic and timely solutions.

The Flawed Budget Control Act

Despite all the warnings, doomsday predictions, and lobbying efforts to stop sequestration, these spending reductions went into effect in 2013—not with a bang, but with a whimper of resignation. Since then, despite short-term deals like one to avoid the so-called fiscal cliff and a recent budget deal by Rep. Paul Ryan (R-WI) and Senator Patty Murray (D-WA) that have provided the Defense Department with modest breathing room, near-sequestration-level budgets are now the norm.⁴

A year and a half into the sequester, the sky has yet to fall. While some systems—such as the Missile Defense Agency’s precision tracking satellite system, the Air Force’s expeditionary combat support system, the space-based surveillance system follow-on satellite, and the Army’s ground combat vehicle—have experienced budget cuts due to the legislation, few high-profile modernization programs have fallen victim to sequestration. At the same time, end strength reductions may be less severe than originally believed, and some deferred maintenance and training is being gradually restored. These factors and others seem to suggest the Pentagon has been able to muddle along through sequestration’s early squeeze. But the consequences of reduced budgets since 2010 are still real, tangible, and chipping away in slow motion at long-standing US military capabilities and capacity.

US defense leaders were not wrong when they forecasted the devastating implications sequestration—coming on top of previous reductions in spending—would have upon the national defense. Rather, these implications have been obscured, spread thin over many priorities, and in some cases forestalled through a series of budget deals, temporary measures, and special exemptions. These actions have created a sort of sequestration purgatory where clear consequences of funding shortfalls

are becoming increasingly visible, but the full sequestration bill has yet to come due. In the absence of the intense pain of sequestration in one event or one fiscal year, lawmakers and even Pentagon officials have become sensitized to accept sequestration as the decade-long baseline for austere defense spending.

With so much attention focused on sequestration, one can easily forget that the US defense drawdown began three years ago. As former secretary of defense Robert Gates outlined in January 2011, the Pentagon was already on a path to cut or redirect about \$478 billion in planned spending due to various weapons cancelations, staff reductions, and efficiency initiatives.⁵ These changes, combined with the persistent pace of operations in Iraq and Afghanistan, were already straining the force—particularly during the summer of 2011 as the newly empowered Republican Congress and the White House became increasingly at odds over the looming debt ceiling.

As Bob Woodward has chronicled, at the 11th hour, senior White House staffers proposed resurrecting a little-known budgetary device known as sequestration to act as a forcing mechanism to facilitate a broader compromise.⁶ The idea was that sequestration would give both Democrats and Republicans a deadline and enough to dislike that they would find a middle ground on entitlements and taxes. The final agreement, coming in the form of the Budget Control Act, offset a debt limit increase with just over \$2 trillion in deficit reduction phased in over two tranches.⁷

The first tranche set a path to reduce the deficit by \$917 billion between fiscal years 2012 and 2021, mostly through caps on discretionary spending. The second tranche charged a joint select committee on deficit reduction (commonly known as the “Super Committee”) with reaching a bipartisan agreement on a plan to reduce the deficit by at least \$1.5 trillion. If the Super Committee could not produce a plan to reduce the deficit by at least \$1.2 trillion, sequestration would cut spending by that amount beginning in January 2013.⁸

A guiding principle of the BCA was the rough reciprocity between defense and non-defense discretionary spending, dividing its cuts more or less evenly between the two. In its first round of spending reductions, the BCA established a “firewall” between security and non-security spending caps in 2012 and 2013. The legislation also provided a total discretionary spending limit from 2014 to 2021 without enumerating

a specific division between security and non-security spending.⁹ Pentagon spending comprises about 76 percent of the “security” spending category, which also includes funding for the Department of Homeland Security, the International Affairs budget category, and the Veterans Affairs Department.¹⁰

When the Super Committee failed to reach a compromise, the BCA not only reverted to the lower budget caps provided for under its sequestration provision, but the composition of its discretionary spending caps changed from the broader security category to the more narrow national defense (050) budget function. The Pentagon accounts for about 96 percent of the national defense budget category, so shifting the caps from security to defense had the effect of shifting more of the burden onto the military.¹¹

This increased share of the load for defense was opposite of the original intention of the firewalls. When similar firewalls were in place during the 1990s, they served to protect defense spending.¹² If non-defense appropriations broke discretionary spending limits, only non-defense spending would suffer a corresponding reduction. Defense would be safely quarantined behind a firewall and unaffected.

Yet this principle was inverted by the debt ceiling deal. Instead of protecting defense spending, politicians handcuffed this constitutional requirement to non-defense programs. Henceforth, whenever Congress and the president revisited the spending caps, defense was held hostage to one-for-one increases in non-defense spending. This presented a major impediment that remains to this day for lawmakers skeptical of increasing domestic spending. The notion that defense spending has to be tied to non-defense spending if any discretionary federal priorities are to grow is one of the most underappreciated and harmful legacies of the BCA.

The inverted firewall principle was not the only legacy consequence of this legislation. On top of the BCA’s first tranche, which cut defense budgets by \$487 billion through caps on discretionary spending from 2012 to 2021, sequestration set defense on a path to further shrink by about \$500 billion. In 2013, these reductions were applied in a punitive, across-the-board fashion, while cuts in later years would in theory be applied in a more targeted way through lowered discretionary caps.

Limited Relief as Drawdown Continues

Compared to the path set by then-secretary of defense Robert Gates in fiscal year 2012, the first round of the BCA reduced Pentagon discretionary budget authority by \$487 billion over the next decade. This was carried out in a two-part process between the 2012 defense appropriations bill and the 2013 president's budget request.¹³ This resulted in reductions of roughly \$45 to 50 billion per year in planned spending relative to the Defense Department's five-year spending plan known as the Future Years Defense Program (FYDP) in 2012 (see fig. 1).

The second tranche of the debt ceiling deal is the sequestration mechanism triggered by the Super Committee's failure. Once complete, this will further decrease defense spending by about \$500 billion through 2021, mostly through lowering defense caps. In the original BCA, defense spending in 2013 faced a cut of about \$55 billion, but unlike the later years of sequestration, cuts would be applied across the board to most of the Pentagon budget.

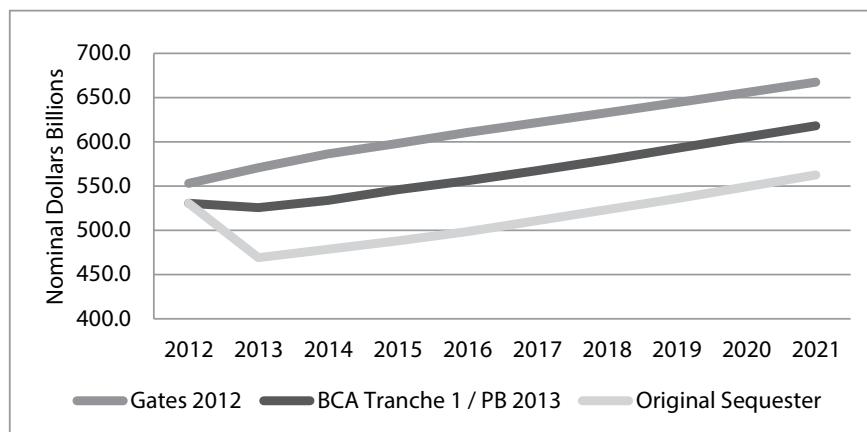


Figure 1. Pentagon discretionary budget authority under original BCA

These plans were altered—but only slightly—by the American Taxpayer Relief Act of 2012, also known as the “fiscal cliff” deal. This agreement delayed sequestration by two months, from January to March 2013. The agreement also reduced the total sequestration bill by the corresponding amount that would have been cut over January and February if sequestration had been in effect—\$12 billion for defense spending and \$12 billion for non-defense spending.¹⁴ The deal also impacted defense in 2013 and 2014 by lowering national security spending

caps by \$2 billion and \$4 billion respectively, while reverting the 2013 cap to the broader security category from the narrower defense budget function—giving the Pentagon a bit of relief from the lower 2013 cap. Overall, the deal was helpful to the DoD in 2013 but did come at the cost of lower caps later. Congressional efforts to “help” the Pentagon manage the drawdown have really served to elongate its duration rather than ameliorate how much is ultimately owed in the end.

When sequestration went into effect on 1 March, the federal government was operating under a continuing resolution (CR). This essentially froze spending based on the prior year levels. Across-the-board cuts were consequently calculated against the CR’s baseline spending levels. At the time, some observers expressed concern because the 2013 president’s budget marked a shift in defense priorities. Coming in concert with a new strategy that moved away from the kind of nation-building campaigns the United States undertook in Iraq and Afghanistan, the 2013 budget request tended to emphasize air and naval assets at the expense of ground forces. This meant that not only would sequestration cut substantially from the newer and lower baseline, but the reference point itself would fail to reflect new priorities emphasized in the recent strategic guidance. As a result, some assets would be overfunded while others were underfunded relative to the president’s budget request.

Despite these fears, the CR was not all bad news for the Pentagon. When Congress enacted a full-year 2013 defense appropriations bill in late March, it superseded the CR—meaning reductions would be applied against the new appropriations levels instead of funding under the CR. In some cases, the 2013 appropriations bill cut program funding below what would have been required if sequestration had been applied against the CR. Thanks to an obscure provision of the original 1985 legislation which established sequestration, the difference could serve as a credit against the total amount the Pentagon owed to certain priorities under sequestration.¹⁵

For instance, Army “other procurement” was funded at about \$9.5 billion under the continuing resolution and was due for roughly a \$1 billion total sequestration cut.¹⁶ But in the 2013 appropriations bill, Army other procurement only received roughly \$7 billion in funding—a cut of about \$2.5 billion compared to the CR. This meant not only that Army other procurement was exempt from sequestration, but that the Pentagon was able to “credit” the \$1.5 billion cut below the original

target to lower its total sequester bill.¹⁷ Consequently, on first glance, it appeared this Army account was a winner in the relative budget dance when in fact it lost much more significantly than if automatic spending cuts had taken place blindly.

Pentagon leaders used this crediting mechanism so extensively that they were able to redistribute \$3.7 billion to other priorities.¹⁸ Crediting, combined with less harsh reductions after the fiscal cliff deal, softened the ultimate amount owed by the DoD to debt reduction in 2013 from about \$52 billion to \$37.2 billion.¹⁹ Of that amount, about \$6 billion came from unobligated funding (money appropriated in prior years that had yet to be spent), while according to a recent Pentagon report, about \$32 billion came from money appropriated in 2013.²⁰ The final \$20 billion cut to 2013 spending represented a 38 percent reduction from the original Pentagon sequestration bill.

This principle of limited sequestration relief—but only at the last minute—was repeated in 2014 with the Bipartisan Budget Act (BBA) brokered by House Budget Committee chair Paul Ryan and Senate Budget Committee chair Patty Murray. As a result of the BBA, the Pentagon's sequestration bill was again lessened by about \$18 billion in 2014 and roughly \$8 billion in 2015 relative to the original sequester plans (see fig. 2).

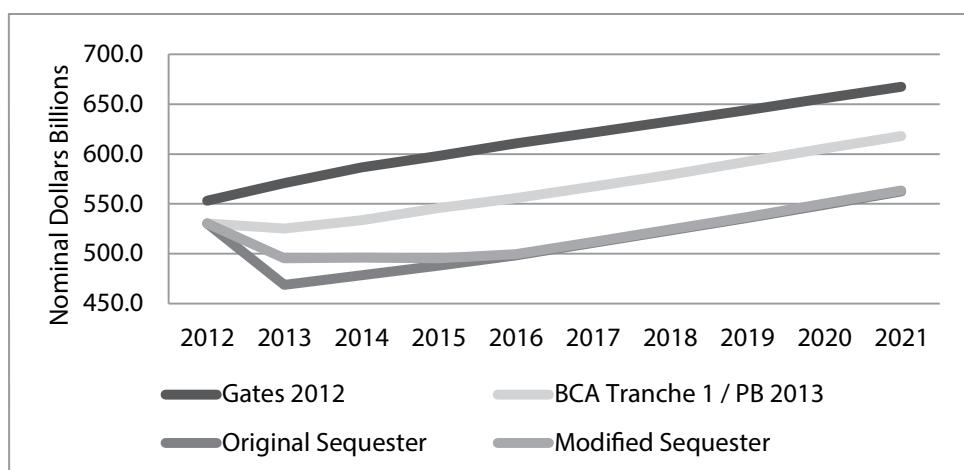


Figure 2. Impact of sequester modifications on Pentagon discretionary budget authority

While every dollar helps, the amount of relief provided under the compromise is probably overstated. The Pentagon is still on the hook for about \$38 billion in cuts in 2014 and about \$50 billion in 2015 relative

to the baseline established by the 2013 budget plans—and more than double these amounts compared to Gates' 2012 FYDP. The good news is Pentagon leaders and Congress have shown they will employ tools at their disposal to maximize flexibility in living with fewer resources and seek every available relief valve to slow and lengthen the extent of the austere defense downturn.

2015: More Cuts, Confusion, and Uncertainty

Three budgetary cycles into “sequestration-lite,” policymakers are just beginning to grasp what sequestration means in practical terms. Between CRs, appropriations, and sequesters, there was a jarring lack of clarity over the past year about sequestration’s impact—even once it had arrived. Like the “Phony War” period of World War II after the United Kingdom and France declared war on Germany but before they fought any major battles, much of 2013 could be thought of as the “Phony Sequester.” Sequestration, under much fanfare, was here—but just what it meant was an open question.

In June 2013, the public finally received more information about sequestration in practice from a Pentagon report that detailed cuts to each nonexempt program, project, and activity. In the longer term, Secretary of Defense Chuck Hagel’s Strategic Choices and Management Review (SCMR) provided the most complete vision yet of what sequestration would mean for the US military in concrete terms. In his speech detailing the findings, Secretary Hagel outlined a host of coming and potential consequences, including shrinking the active duty Army to as low as 380,000 soldiers and the Marine Corps to 150,000 on one hand, and a “decade-long modernization holiday” on the other.²¹

But these consequences, as alarming as they were, were still years away from becoming reality. Because the 2013 and 2014 presidential budget requests largely ignored sequestration in the overly optimistic hope that a political deal could be worked out no matter how elusive, Congress still did not have a roadmap of how short-term impacts like the line-by-line rescissions in 2013 would translate into the big picture consequences outlined in the SCMR.

Without a medium-term plan to bridge the immediate and the distant, it was very difficult for the public to understand how all the pieces of the sequestration puzzle fit together. As it turned out, because the

BBA provided near-term budgetary stability—even as it left the majority of cuts in place—the Pentagon was able to come up with just such a plan in its 2015 budget cycle.

As soon as Secretary Hagel previewed President Obama's latest budget in advance of its release, it was clear the request would be the most consequential of this administration. After three years of warnings and worry about sequestration, the 2015 budget presented a roadmap for the US military's drawdown. Released in tandem with the 2014 *Quadrennial Defense Review (QDR)*, the 2015 budget request painted a picture of what short-term defense budgets, medium-term defense planning, long-term defense strategy, and the world as a whole might look like under prolonged sequestration. The austere defense picture was not pretty. And it should be wholly unacceptable to politicians of all stripes.

Unfortunately, while the 2015 request provided comparatively more information about near-sequestration-level budgets than anything else up to that point, it was still far from clear. In fact, it was constructed and presented in one of the most confusing formats in recent memory.²² The immediate picture shows the administration abiding by the Ryan-Murray agreement with the Pentagon topline complying with the newly adjusted spending cap. During the rest of the FYDP, the administration added about \$115 billion over the sequestration caps from 2016 through 2019, meaning that budget cuts, while severe, were still not quite as bad as they would be under full sequestration.

Without that \$115 billion over the FYDP, the administration would have to resort to even steeper cuts, including reducing one squadron of F-35 aircraft, eliminating the entire fleet of KC-10 tankers, cutting seven operational surface combatants, cutting the planned procurement of eight ships, divesting the entire Global Hawk Block 40 fleet, divesting the Predator remotely piloted vehicle (RPV) fleet, eliminating planned purchases of Reaper aircraft in 2018 and 2019, and cutting service readiness even further over the FYDP.²³

As confusing as it was, the \$115 billion was not the only additional funding the administration requested above the sequestration caps. As an optional add-on to its request in 2015 only, the administration proposed a \$26 billion opportunity, growth, and security initiative (OGSI) that supported priorities such as the purchase of 26 AH-64 Apache helicopters and 28 UH-60 Blackhawk helicopters, eight additional P-8A Poseidon aircraft, 10 additional C-130J series aircraft, two addi-

tional F-35s for the Air Force, as well as roughly \$10.6 billion in additional funding for operation and maintenance (O&M) accounts, largely for service readiness.²⁴ Separate from, but occasionally overlapping with, the OGSI was a resurrected \$36 billion service unfunded priority list, which again included the two additional F-35As, the 10 additional C-130J series aircraft, the eight P-8s, as well as new requests for six F-35As, one F-35B, five F-35Cs, 10 additional C-130Js for the Air National Guard, and 22 EA-18G Growlers.

Despite these proposed spending increases—a clear signal from the administration that sequestration levels of spending do not adequately support the national defense—the Pentagon scaled back its plan from 2014 by about \$183 billion and the plan from 2013 by a little over \$300 billion. These reductions have translated into real pain for the military services. Implications include the proposed retirement of the entire A-10 fleet, retiring the U-2 fleet, shrinking the littoral combat ship program from 52 ships to 32, and a major realignment of Army aviation that would transfer all Apache attack helicopters in the National Guard to the active duty while moving some Blackhawks from active duty to the Guard.²⁵

Many of these looming cuts will be especially painful because they come on top of years when the military has not made out as well as it should have. The Air Force has been especially hard hit by this trend. For instance, since defense budgets peaked in 2010, and including the 2015 request, the Navy is on a path to have bought nearly 40 percent more total aircraft than the Air Force. In fact, after factoring out RPVs, the Navy will have bought more than two and a half times as many aircraft as the Air Force. When it comes to combat aircraft, the Navy will have bought 264 to the Air Force's 117. Moreover, excluding RPVs, the Air Force has proposed retiring more aircraft than it will have built during this period.

According to *Defense News*, the decision to add the \$115 billion during the FYDP came from the White House very late in the Pentagon budget and planning cycle.²⁶ It came so late that Pentagon leaders were not able to budget for everything within their five-year plan that they were advertising was in the budget. For instance, when he previewed the request, Secretary Hagel made clear that the 2015 spending plan would allow for the Navy to maintain 11 aircraft carriers and keep Army active duty end strength between 440,000 and 450,000.²⁷ Yet once the budget came out, it gradually became clear these high-profile benchmarks were

not funded, even by the extra \$115 billion. Instead, the FYDP projected the loss of one aircraft carrier and a smaller Army of 420,000 active duty Soldiers—both of which had been billed publically as consequences of sequestration that the budget proposal and its extra \$115 billion would avoid.

Defense officials have tried to massage this inconsistency by stating recently that if Congress acts to fund the military at the higher level preferred by the president during the next five years, they will adjust plans to include the 11th carrier and the higher Army end strength. But this invariably means other items currently funded would be removed as an offset. What these would include is only a parlor guessing game at this point.

The matter of what is in and out of the budget is crucial because it confuses lawmakers trying to understand the impact of smaller budgets. When there is confusion and misleading answers, Congress will default to the assumption that budgets are tight but workable and the pain must not be that bad, at least at the moment. The 2015 budget provides the best glimpse into what sequestration and near-sequestration budgets would look like. But to the extent there is uncertainty about what increased funding would buy, it is that much more difficult for skeptical lawmakers to support any defense growth. This locks in sequestration-lite-level budgets as the new norm for Pentagon baseline spending, making it even more difficult to add money in the future for a variety of reasons spelled out earlier, including the politics of the federal budget and inverted firewalls.

Pentagon leaders are to be commended for connecting budgets to medium- and longer-term implications. This sequestration roadmap, after all, is what makes the 2015 request and its accompanying literature so valuable. Yet the Pentagon has thus far been much less effective in articulating where additional new money would be spent. This confusion over spending plans and additional factors, like the OGSI and the unfunded requirements lists, only serve to create a sense that the Pentagon is unable to prioritize where extra money should go.²⁸ And in the halls of Congress, if you cannot defend with ready, smart, and digestible answers about where the funds would go should they be provided, you are very unlikely to get them.

Moreover, there is an elephant in the middle of the Pentagon's 2015 FYDP which is likely to further complicate the entire debate. Baked into

the plan are five-year efficiencies targets of roughly \$94 billion.²⁹ Among these baked-in savings are a 20 percent cut in headquarters operating budgets, increased acquisition efficiency, auditable financial statements, civilian manpower reductions, and most problematic, assuming redirected money from terminating and deferring weapons systems, health care changes, and dollars resulting from a new base closure round. According to a Pentagon report, the FYDP includes \$31.2 billion in compensation reform alone from initiatives like slowed pay raises and an ambitious TRICARE consolidation effort.³⁰

Given recent congressional unwillingness to retire older weapons systems, conduct a base closure round, or substantially adjust military compensation, these savings are unlikely to materialize anywhere near the degree assumed.³¹ As a result, even if Congress gives the Pentagon the \$115 billion it is requesting above sequestration caps—itself a dubious proposition—the Defense Department will be faced with still more budgetary pressure because its plan assumes savings that will not materialize en masse. In the absence of this money freeing up for other priorities, officials will be forced to make corresponding and additional reductions elsewhere in the plans. The most likely casualty will be combat power and research and development.

A good example of this is the proposal to retire the A-10 Warthog fleet. Air Force leaders decided retiring the entire fleet was the only way to reap substantial savings totaling more than \$4 billion. The House has rejected the A-10 retirement in its version of the 2015 National Defense Authorization Act, and it seems likely the final bill will overturn all or part of this decision—leading to a significant negative impact on other aircraft fleets. Air Force chief of staff Gen Mark Welsh has said that to find equivalent savings if he is prohibited from cutting the A-10, he would have to cut 363 F-16 Falcons or the entire B-1 fleet out of the service’s inventory.³² None of this is to say the A-10 is not an incredibly valued asset. But rather this case study highlights the paradox of politicians: they consistently raid the military’s budget as a piggy bank for savings by cutting the topline but then try to stop any actual consequences resulting from those cuts—the same cuts they approved and directed.³³ This “cut without cutting” exercise year after year is a shell game that is robbing those in uniform of readiness, modern equipment, and innovation for the future.

The big-picture result will be that the tightrope the DoD is walking will eventually snap in half. When he first briefed his management review, Secretary Hagel framed the future of the military under continued sequestration as a choice between a large but older force (capacity) or a smaller but modern force (capability).³⁴ In the 2014 *QDR* and accompanying 2015 budget, the Pentagon has all but declared it is choosing capability over the depth of the force. Yet, because this vision of a smaller-but-modern force relies on the “but modern” qualifier, the DoD will be sorely disappointed. As budget plans come undone due to congressional opposition to proposed reforms and money requested above the budget caps does not materialize, military leaders will be forced to further cannibalize from existing investments. The DoD will end up not with a small but modern force, but a smaller, older, *and* less-ready military.

This is a result that was predicted by a recent joint exercise undertaken by the American Enterprise Institute (AEI), the Center for Strategic and Budgetary Assessments (CSBA), the Center for a New American Security (CNAS), and the Center for Strategic and International Studies (CSIS).³⁵ Using a strategic choices methodology developed by the CSBA, the teams were tasked with rebalancing Pentagon spending to meet sequestration and partial sequestration scenarios. Despite different political backgrounds and defense philosophies, the teams made broadly similar choices in the face of the budget caps, including steep reductions to Army end strength, cutting two or more carriers, divesting large amounts of nonstealthy fighters, and shrinking the Navy’s surface combatant fleet.

Don’t Bet on Things Getting Better

As the Pentagon has reacted to ongoing near-sequestration-level budgets, it has slowly but surely adjusted its requests downward. The defense budget projections are now resigned to nearly full sequestration. On top of the \$487 billion in spending reductions contained in the 2013 budget request relative to the 2012 plan, the 2014 budget cut roughly an additional \$120 billion from the Pentagon’s 2013 plan. The 2015 request followed this by adding an additional \$183 billion in cuts compared to the lowered 2014 baseline, as shown in figure 3.

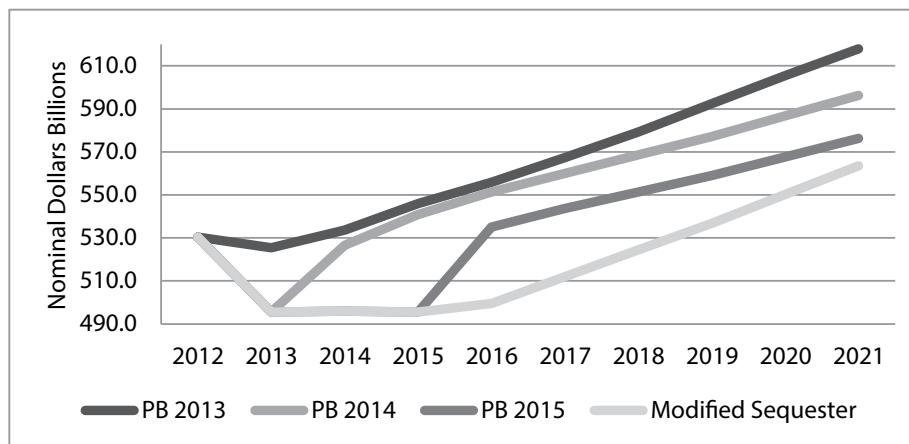


Figure 3. DoD discretionary budget authority gradually approaches sequestration

This growing acceptance of lower budgets is not unique to the administration. The House Republican budget proposed by Chairman Ryan in recent years has also featured a shrinking DoD topline (see fig. 4). In 2012, Mr. Ryan's Pentagon topline roughly followed that of former secretary Gates. In 2013, it added about \$223 billion over the Pentagon's 2013 plan for pre-sequestration spending. In 2014, the Ryan budget largely mirrored the pre-sequestration BCA caps, and Mr. Ryan's 2015 budget cuts about \$150 billion from the pre-sequestration caps. While the GOP budget has been slower to fall than the Pentagon's, the downward trend is unmistakable.

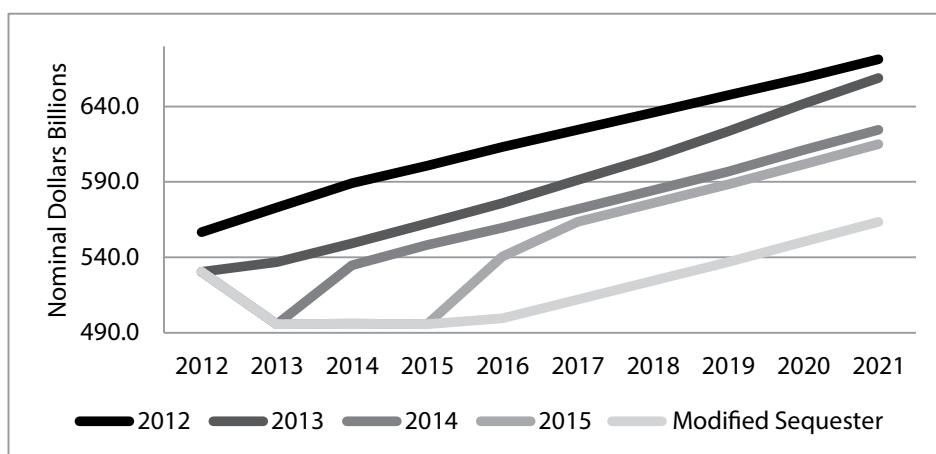


Figure 4. Representative Ryan's Pentagon budgets have slowly trended downward.

Baselines matter. Unfortunately, sequestration has become the baseline against which to measure defense requirements. In practice, what this means is that future budgets seeking to restore defense spending will be viewed as politically difficult increases. Already, this has played out when the Obama administration met with criticism for raising planned defense spending above caps in its 2015 budget.

But the sequestration baseline, arbitrary as it is, is no way to budget for national security. As former secretary of defense Leon Panetta put it, “We have made no plans for a sequester because it’s a nutty formula, and it’s goofy to begin with, and it’s not something, frankly, that anybody responsible ought to put into effect.”³⁶ Military requirements must be informed by strategy and not the other way around. In his assessment of the *QDR 2014*, chairman of the Joint Chiefs of Staff GEN Martin Dempsey argued that “If our elected leaders reverse the Budget Control Act caps soon—and if we can execute the promises of the QDR—then I believe we can deliver security to the nation at moderate risk.”³⁷ Other Pentagon officials have described the risk level inherent in the *QDR* as “manageable,” which implies an even higher threshold than “moderate.” Missing is an explanation for why Americans should feel comfortable leaving their military with so little room for error.

After all, in his assessment, the CJCS highlights three areas of higher operational risk confronting the military, including (1) more difficult conventional fights with a smaller and a less ready force, (2) reliance on allies and partners whose military power is “mostly in decline,” and (3) “extraordinary” and increasingly difficult military objectives associated with meeting long-standing US policy commitments. These factors strain any reasonable definition of what constitutes a “moderate” risk.

Of course, fitting the square peg of budget cuts because of a political deal about debt reduction or reducing funding because “this is what America always does after the war” into the round hole of strategy is no easy task for the Pentagon. It is not the DoD’s fault that the president and Congress handed it irresponsible budget caps and expect the military to make do. Yet defense officials should be making the case daily to the American public of the implications of a smaller and less capable military. The only way things will get better is through public pressure on elected officials. Unfortunately, policymakers feel absolutely no urgency in this regard today. But it should not come to a modern-day version of Task Force Smith to get their attention.

Will World Events Force Washington's Hand?

From air traffic controllers to meat inspectors, veterans' benefits, military paychecks, and tuition assistance, the groups that have been spared the ax of sequestration have impacted the public and its sympathies in a real way. The irony is that exempting military pay has not spared those in uniform or their families from feeling the impact of the budget squeeze all around them. US fighting forces are not fooled by these gestures. Quality of life is important but so too is quality of service. Yet, this defense drawdown and sequestration have meant that maintenance has been dramatically reduced, flying hours have fallen, base upkeep has taken a backseat, and training has been scaled back. And this is just the beginning given that the defense budget will become more austere before bottoming out.

Since defense cuts have been slow-rolled through last-minute deals and budgetary loopholes, the sequester no longer functions as the forcing mechanism it was designed to be. Instead, it is undermining the national defense slowly and in pieces, bit by bit, while the baseline creeps ever downward. This slow bleed has caused a growing if begrudging acceptance of sequestration's baseline as the acceptable levels of defense spending by Washington's elite.

In the absence of sharp budgetary pain, this process is likely to continue. The harmful result is that the military will muddle along through sequestration, taking the annual last-minute deals that halt the worst consequences of sequestration with relief but knowing that these leave the majority of it intact. The deals designed to help the military will actually seal its fate by relieving just enough pressure to forestall the kind of discomfort that would have caused a public outcry or political pain enough to reverse the sequester.

As this process continues, Chairman Dempsey has already forecast what might happen next. All should be worried. Writing again in his risk assessment of the *QDR*, General Dempsey warned that the military's "loss of depth" could "reduce our ability to intimidate opponents from escalating conflict." Furthermore, the smaller and less capable military outlined in the *QDR 2014* could also cause other nations and non-state actors to "act differently, often in harmful ways."³⁸ It is quite possible that the world Dempsey fears is already becoming manifest, with increased Russian and Chinese aggression taking advantage of the US military's declining size and strength. Given recent Chinese and Russian actions,

it is not hard to imagine global crises escalating as the US military's reduced capacity and capability accordingly lessens the nation's ability to influence world events. If the US military's shrinking footprint leads to further instability and conflict, Congress may soon find that larger defense budgets are the logical first step toward trying to reign in international chaos.

Of course, Congress need not wait until a crisis has passed the point of no return to choose to reinvest in US military superiority. A more logical, responsible, and acceptable path is to reverse course now, before it is too late. A good point of departure would be to return Pentagon spending to the path set by Secretary Gates in FY 2012—about \$100 billion dollars per year above where we currently stand for 2015. Preserving the depth of the US military, reinvesting in modernization for next-generation programs, and restoring lost readiness will not be an easy task, nor will it be accomplished overnight. Given the alternatives, however, there is not much of a decision to make. Military power is a cost-effective use of national power that complements and enhances diplomatic and economic efforts. It is the sine qua non of foreign policy. The choice for the United States in the coming years is not between endless war on one hand and smart diplomatic power on the other but, rather, a retreat from global leadership and all that entails and the reconstruction of its military power as a way to leverage and enhance other aspects of national power to promote a just, prosperous, and peaceful world. **SSQ**

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Politics and Defense Capabilities

Local Interests versus Strategic Imperatives

Maj Brian R. Davis, USMC

The greatest obstacle to modernizing our military forces may be the Congress of the United States.

—Senator John McCain

The debate over programs within the military budget will only become more intense as the United States struggles to revive a stagnant economy and the military experiences dramatic budget reductions over the next 10 years. However, the current economic environment is unique due to the energized focus on debt-reduction and fiscal responsibility. With both political parties interested in reining in US debt through the Budget Control Act of 2011, discretionary funds will inevitably become the target of deep cuts, leading to austere defense funding in the years ahead. Military planners are now attempting to eliminate all nonessential programs through massive cuts in the postwar budget, shrinking the size of each service branch, and making difficult decisions to abolish future programs, prioritized with resource considerations in mind. However, authorizing measures and the appropriations process provide elected officials the authority to alter Department of Defense (DoD) programs in part or in total. Congress has the power to appropriate funds for programs the individual services may not want or to defund those needing expansion. Congress also has the authority to prohibit the retirement of military platforms, even if they are outdated and costly. In short, the defense committees have the ability to influence long-term national security strategy by modifying the national resources committed to military programs.

Thus, the larger issue threatening US national security is that members of Congress use the military procurement process as an economic stimulus

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for their districts. For Congress, “to support and defend the Constitution” seems to mean stabilizing local economies and creating constituent jobs; while to military personnel charged with protecting the people, it means acquiring specific capabilities for the national defense. But if elected officials are, in fact, more concerned with local economics and constituent jobs, a conflict of interest arises. As a result, the United States must reassess the degree to which politicians may alter the national security roadmap.

Over the years, politicians have defended their adjustments made to military programs in the DoD budget for many reasons, but three recurring themes continue to surface: expanding future markets, national security imperative, or the defense industrial base. All three explanations sound like reasonable arguments, yet during an austere defense environment, each must be viewed with a critical eye. This article assesses the veracity of the three common explanations given for modifying military programs and attempts to determine if Congress is, in fact, sacrificing the long-term strategic capabilities of the nation. First, it presents a greater understanding of the complexities of defining defense requirements, and most importantly, recognizes how those requirements identify material capabilities. Next, it investigates three case studies, each focused on one of the arguments for making alterations to military programs in the defense budget. Finally, it presents recommendations for improvement, borrowing from successful practices in other contexts and other countries.

Ultimately, Americans need to know if their security is being sacrificed to parochial or local interests. In that regard, both the services and the Congress have obligations to fulfill. Especially during times of austere defense, Americans need to be reassured that the military identifies and obtains the war-fighting capabilities required to safeguard their freedom.

From Strategic Guidance to Military Capability

Before an interpretation of what constitutes national interests and a process to prepare for the national defense can be codified, an overall national strategy must be established. A national strategy allows for a cohesive and comprehensive approach to decision making, planning, and execution at all levels of government. In addition, congressional oversight and budgeting focused in a similar fashion would ensure national

objectives are being met in the best interests of the American people. According to international security specialist and Congressional Research Service contributor Catherine Dale, “In theory, effective national security strategy-making can sharpen priorities and refine approaches; provide a single shared vision for all concerned agencies; clarify the roles and responsibilities of all concerned agencies so that they may more effectively plan and resource; offer a coherent baseline for congressional oversight; and communicate U.S. government intent to key audiences at home and abroad.”¹

The armed forces are able to determine what equipment is necessary to provide for national security once they understand the responsibilities assigned to them in the broad context of national strategic direction—composed of national security interests, national policies, national priorities, and long-term national strategies. The DoD uses the strategic direction and priorities set forth in strategic documents such as the *National Security Strategy*, *National Defense Strategy*, and *National Military Strategy* to drive the capabilities needed to meet national security objectives. This increases the importance of understanding the strategic narrative within the documents and ensuring capabilities are, in fact, tied to those objectives. The myriad aspects, phases, and stages of military acquisition all incorporate and revolve around national strategic direction. These core strategic documents, created by the nation’s civilian and military leadership, drive military procurement. The DoD conducts a capabilities-based assessment (CBA) analyzing military capabilities and gaps in capabilities against those required to execute the missions laid forth in the strategic guidance documents. The Joint Requirements Oversight Council (JROC) identifies and prioritizes all war-fighting requirements and validates the capabilities required to perform specific missions and close gaps in capabilities. The DoD also develops the budget for all material capabilities and provides the most effective mix of forces, equipment, manpower, and support attainable within fiscal constraints. The process aligns the appropriate resources to the prioritized capabilities based on the overarching strategy. This is done by balancing the requested war-fighting capabilities with risk, affordability, and effectiveness.²

A capabilities approach decreases the number of weapon systems being duplicated when multiple branches independently identify similar threats. By focusing on required capabilities and capability gaps across

services, the collaborative effort increases the number of systems developed jointly among the services.³ Conversely, if the requirements are altered and specific capabilities are not developed in this new system, a significant gap could potentially develop and leave the United States vulnerable.

The acquisition process involves tens of thousands of individuals making tens of thousands of decisions. This deliberately complicated and extraordinarily structured process ensures the capabilities being pursued by the DoD are, in fact, meeting the needs of national security. Hundreds of potential programs are compared against each other and either supported to fruition or eliminated based on priorities and available resources. The lengthy process contains many layers of validation and quality control to ensure the most efficient and effective capabilities are being generated. This system is inherently guided by checks and balances along the way which eliminates the alteration of a final product by any single individual.

The systematic process of military acquisition may occasionally come under fire for different reasons, but it is rarely criticized for ignoring the security needs of the United States. The thousands of decisions made throughout the journey act as filters to ensure national objectives remain the focus, that waste and excess are eliminated, and ultimately, the military obtains the most affordable weapon systems needed to safeguard national security. This is not to say that episodes of the services supporting small amounts of wasteful spending on projects that could be viewed as parochial do not exist; only that the vetting process for military programs is deep and laborious. Military programs must first survive the arduous procurement process; some would say a feat within itself. The process is designed to eliminate service parochialism. After the DoD approves and requests funding for the program, it then must survive the executive branch's surgical budget scalpel. As a result of this vetting, the military procurement process stands a reasonable chance to adequately identify the required capabilities for the national defense.

The US Congress plays a significant role in the military acquisition process. It creates the very laws the Defense Department is required to follow when attempting to acquire material capabilities. It also has the authority to conduct investigations and is responsible for oversight of all military programs. However, the most important and influential role given to Congress, by far, is budgetary approval. The four relevant congressional committees—the House/Senate Armed Services Committees

(HASC and SASC) and the House/Senate Appropriations Committees (HAC and SAC)—have the authority to eliminate, reduce, restrict, or defund any program deemed parochial and not in the best interest of the nation. Appropriating the necessary funds to execute the required programs is in the hands of Congress—or more accurately stated, in its purse—given its ability to alter recommendations from the DoD and the president. The motives and, more importantly, the long-term impact of these alterations require analysis to ensure they provide the required capabilities for the military to execute its assigned missions.

To avoid any potential confusion, an obvious yet critically important assumption must be made abundantly clear: the military procurement process is, in fact, designed to assess strategic requirements accurately and procure effective military capabilities to provide for the national defense. If, from the analysis, one can logically conclude that congressional adjustments are being made by informed representatives dedicated to national defense, then the system is functioning as designed. But if the alterations are diminishing military capabilities at the expense of some other variable, then the system is flawed. Many political analysts argue this is currently the case, and some of those analysts identify the most influential variable as local politics motivated by economic incentives.

Recurring Themes for Altering Strategic Choices

The American Republic will endure until the day Congress discovers that it can bribe the public with the public's money.

—Alexis de Tocqueville

When used properly, alterations to the budget proposals are not inherently bad, as they are proof of the democratic process in action. They can be an excellent oversight tool to increase efficiency and effectiveness and ensure military material capabilities are prioritized properly in support of the greater national defense—a move essential during austere times. However, if abused, a potential exists for the budgetary system to morph into a government jobs program that may have very little to do with national security interests or national defense and, with declining budgets, produce grave risks.

Because the DoD budget proposal, including procurement programs, has been carefully constructed utilizing national strategic guidance and

prioritized by senior military leadership prior to reaching Congress, legislators should be required to justify their alterations to the public. Most of the budget is at the unclassified level, and with today's technology, live television airs most of the debates, interviews, and committee meetings for public consumption. Politicians draft creative ways to defend their adjustments to the submitted proposals, but there are three recurring themes used to justify the largest of their modifications.

The first explanation used by committee members is that adjustments are necessary to expand future markets for the good of the defense industry. This typically occurs in the form of no-bid contracts, more commonly known as "earmarks," awarded to small businesses. By awarding federal dollars to a small business, Congress is attempting to help a young company break into a market and compete against larger, established corporations. These federal dollars given as no-bid contracts mean the small companies receive the business without competing. The second explanation used to alter procurement programs is that the adjustments are necessary for national security. This normally occurs when congressmen attempt to justify program additions or prevent program cancellations. Typically, elected officials will highlight a shortfall in a critical area that senior military officials failed to account for in their budget requests. This may require the additional purchase of capabilities such as planes, ships, trucks, or tanks not originally requested in the budget. The third common, and now most often used explanation, is that adjustments are necessary to maintain a critical industrial base. This argument focuses on the critical and unique labor skills required to maintain production of a specific weapon platform or to produce the most advanced technologies. It also requires maintaining the infrastructure that produces today's equipment and, finally, investing in the research and development (R&D) laboratories that often empower tomorrow's capabilities. The case studies that follow show that these three explanations rarely have anything to do with expanding defense markets, national security, or the industrial base. Rather, the recurring theme is constituent jobs in a representative's district. In most cases, legislators opt to support local jobs in their district over the greater good of procuring critical military capabilities for national defense.

Earmarks: Growing the Defense Market

The no-bid contract is a fast, effortless, and politically unchallenged way to add jobs to a district. These so-called earmarks are most often given to third-tier contractors, which are the smallest corporations involved in the procurement process, thus qualifying as “small businesses.” This classification applies to companies that do not have the capital to compete for contracts against larger corporations, hence the federal government removes the barriers of competition to open the market to new companies that may potentially grow into larger suppliers. However, because there is no competition and no selection process, these no-bid contracts, more often than not, reward affiliation between small contractors and political figures.⁴

An example of such local politics at play surfaced in a *Wall Street Journal* article from 2008 accusing Rep. Silvestre Reyes (D-TX) of abusing no-bid contracts. Representative Reyes had an influential seat on the HASC that afforded him unfettered access to the DoD budget and the ability to make significant adjustments to defense programs. According to the article, and confirmed through several other sources, Reyes received \$24,000 for his reelection campaign from a small-business defense contractor named Digital Fusion, Inc. According to its webpage, Digital Fusion is “a wholly owned subsidiary of Kratos Defense & Security Solutions Inc. Founded in 1995, Digital Fusion provides innovative technical solutions in the areas of advanced technology research and development; engineering services; and integration, test, training and analysis support services to a wide variety of government and commercial customers.”⁵

Receiving reelection campaign funds from small businesses is not out of the ordinary in itself. However, just five weeks earlier, Congress had approved the \$461 billion defense spending bill which included a provision inserted by Representative Reyes awarding a \$2.6 million no-bid engineering contract to Digital Fusion’s Texas branch located near Fort Bliss, inside Reyes’s El Paso district. From a skeptic’s point of view, the campaign contribution seemed to be a payment for awarding the lucrative contract—a quid pro quo. As expected, both the congressman and the corporation claim there was no connection between the campaign contributions and the awarding of the contract. They further clarify that there was nothing illegal about their actions, and this type of activity

is commonplace among politicians and defense contractors in today's military industrial complex.⁶

The same *Wall Street Journal* article accuses Digital Fusion of illegally reimbursing company executives who donated to Reyes's campaign fund by issuing them larger-than-expected year-end bonuses. These bonuses presumably matched or exceeded their donations to the congressman's fund. A lawsuit was subsequently filed against the company by its former ethics officer, Elena Crosby, who was fired in 2006 for raising concerns about executives receiving reimbursement for contributions, contract irregularities, and other ethical issues.⁷

This controversial \$2.6 million earmark to Digital Fusion was only one in a series of no-bid contracts awarded to the company through the actions of Congressman Reyes over a four-year span. The firm also received \$1.95 million in 2007, \$2.6 million in 2008, \$2.4 million in 2009, and \$1 million in 2010. The money allocated in all four years comprised add-ons not originally included in the defense budget. Representative Reyes single-handedly added a total of \$7.95 million to the defense budget for a small company that conducts business in his district and happens to make large contributions to his campaign fund.⁸

Digital Fusion is actually an Alabama-based company with most of its business focused on its Huntsville operations. From 2004 to 2008, Digital Fusion contributed \$150,000 to four lawmakers, one of whom was Representative Reyes with ties to Digital Fusion's local affiliate in his El Paso district. The other three were Alabama representatives who also had strong influence over the awarding of no-bid contracts to Digital Fusion.

The first of these was Senator Richard Shelby, who currently presides as the senior Republican member of the SAC and has been on the committee since 1994. As a member of the Appropriations Committee, he had the ability to add earmarks for corporations within his district, including Digital Fusion, which claims to employ 300 workers. According to a *USA Today* article, Senator Shelby has showered his home state with federal dollars for two decades, mostly in defense and aerospace industries.⁹

The second Alabama representative that received Digital Fusion contributions was Cong. Terry Everett, then representing Alabama's 2nd congressional district, home to both Fort Rucker and Maxwell Air Force Base. Representative Everett also was on the HASC for four years, two as chair of the subcommittee on strategic forces. Not only was Digital

Fusion located within his state, it was a subsidiary of Kratos Defense & Security Solutions Inc., which focuses on defense and rocket support services. In 2005, the Subcommittee on Strategic Forces was newly created to place nuclear weapons, intelligence, satellites, and missile defense systems under one subcommittee with an authorizing budget of \$50 billion. This was the subcommittee from which Kratos Defense and Digital Fusion would receive government contracts. The arrangement raises questions about the company's contribution to Representative Everett's campaign chest.

The third Alabama representative to receive campaign contributions from Digital Fusion was Rep. Robert Cramer, who represented the 5th congressional district. The 5th district is in northern Alabama and encompasses Redstone Arsenal—home to the US Army Aviation and Missile Command (AMCOM) and NASA's Marshall Space Flight Center. This district also happens to be where Digital Fusion's headquarters is located. Not surprisingly, Representative Cramer was also a member of the HASC and showed keen interest in space and missile defense programs for his district.

To be absolutely clear, these four elected officials did not break any laws. They were simply operating within the confines of a system created by their predecessors in Washington. This system favors local businesses and their campaign contributions which, legally donated, seem to have considerable influence on elected officials. However, each individual earmark whittles away at the larger strategy for national defense. When viewed collectively, the total dollar amount of earmarks is substantial, while their contribution to national defense is often debatable.

By using the award-winning website opensecrets.org run by the Center for Responsive Politics, a research group that tracks money in US politics and its effects on elections and public policy, concerned citizens can view campaign contributions, earmarks, voting history, and many other facets of political activity. According to Open Secrets, Representative Reyes co-sponsored 21 earmarks in 2009, totaling \$34 million. Of these, 13 were independently sponsored and totaled \$22 million. Of the \$34 million, only \$5.2 million was allocated for projects outside of his district. In total, 85 percent of all earmarks sponsored by Reyes for 2009 went to his district.¹⁰ The year prior, he co-sponsored 25 earmarks totaling \$24 million, and of this amount, only \$2.5 million was dedicated for projects that did not affect his district. In total, the congressman

dedicated 90 percent of his earmarks for contracts that involved his district in 2008.¹¹

Oddly enough, during the course of these two years, even with 85–90 percent of his sponsored earmarks totaling \$58 million dedicated to his district, he did not stand out among other representatives. In fact, in 2008 he ranked 188th out of 435 representatives for total dollar amount earmarked. In 2009, there was little change to his standing, as he ranked 143rd.¹² Most representatives spend time finding earmarks to benefit their districts, and a quick analysis of each representative would show Congressman Reyes's 85 percent and 90 percent fall along the average. Earmarks are simply an easy way to create a handful of jobs in one's district by dispersing federal funds that do not require competitive bids, receive little oversight, if any, and supplant higher defense needs.

This example also includes issues involving campaign financing and special-interest groups or lobbyists. These two issues often exacerbate the impact of local politics on the procurement process by creating avenues for representatives to acquire funds and secure jobs in their districts, not for national security reasons, but for political favors and reimbursements.

In the case of Digital Fusion and Representative Reyes, constituent jobs and the local nature of politics superseded his responsibilities as a member of the Armed Services Committee and played a larger role than the greater national defense. When questioned on his use of earmarks, it becomes evident they are a source of pride for him. He willingly pointed out that they are not simply a matter of defense-related issues; they also support “many other important projects for the El Paso community. . . . Each year, I work closely with Fort Bliss leadership, REDCo, and others to determine which appropriations projects are the highest priority. All of these defense appropriations requests are carefully vetted beforehand to ensure they benefit Fort Bliss, other regional military installations, and El Paso.”¹³

If one dissects the representative's statement, his true intentions slowly surface. First, there is no mention of national interests or national security benefits obtained from his additions to the budget. As mentioned, his role as a local representative takes precedence over national responsibilities. Secondly, if in fact Congressman Reyes is deliberating with the Fort Bliss leadership to determine their priority projects, he is in essence undermining the military requirements process discussed earlier. By adjusting the DoD proposal submitted by the president, Reyes is alter-

ing the national strategic priorities in favor of the priorities of a local military installation. The Fort Bliss leadership may have a role to play in the procurement process, but it certainly should not trump what senior military decision makers and the DoD have determined is appropriate for the installation. Thirdly, REDCo is an economic development corporation that provides consultation to businesses and industries relocating or expanding operations in the El Paso region.¹⁴ If Congressman Reyes is in negotiations with REDCo, it is for local economic reasons only, as REDCo is not in the strategic defense industry. Finally, as the congressman stated, his earmarks must benefit the city of El Paso.

This case study presents an example of the average congressional representative who does not abuse the earmark system any more than the next elected official. His redistribution of federal dollars to his district is not out of the ordinary. Prior to defeat by a primary challenger in 2012, Congressman Reyes served for 16 years and was reelected seven times. It would seem his constituents approved of his ability to acquire federal dollars and, more importantly, the jobs they bring with them.

The heart of the problem is that Representative Reyes was asked to execute two very different tasks at two very different levels. First, he was elected by the citizens of the El Paso district to represent them and their interests. He did so by using his political influence to draft, alter, or eliminate policies to better the lives of his constituents at the local level. On the other hand, he was also a member of the HASC, which is responsible for general national defense policies, military operations, DoD organization, military acquisition, and industrial-base continuity. In this second obligation, he was responsible for the approval of billions of dollars toward defense at the national level. In recent years, it has become seemingly impossible for elected officials to keep their local obligations and federal responsibilities separate. As previously mentioned, Congressman Reyes did not violate any laws; he symbolizes the average representative and was simply using the currently accepted system. Unfortunately, the current system favors local economic interests over national military strategic capabilities. In essence, the current military procurement system has, at times, become an economic stimulus program with a decidedly local flavor.

Critics will argue that companies like Digital Fusion no longer have preferential treatment from local politicians because of the new earmark moratorium. When the number of earmarks hit 15,000 in 2005 and

involved several scandals, the public called for changes, and Congress began to consider reforming the process. Earmark reform began in earnest in 2007 with new transparency rules requiring the names of lawmakers sponsoring the earmark to be included with the legislation.¹⁵ Over the course of the next four years, additional reforms were made, to include the attachment of certification letters accompanying earmarks, but only slight reductions in earmarks occurred. According to the nonpartisan group, Taxpayers for Common Sense, Congress approved 9,499 earmarked projects in 2010 worth \$15.9 billion.¹⁶ The reforms had increased transparency but had not eliminated the wasteful spending.

The high-water mark for earmark reform came in 2011 with the earmark moratorium in both the House and the Senate. Once in control of the House, the Republican leadership imposed an earmark moratorium, essentially banning the use of earmarks from all legislation in that body. Senate Republicans, led by Mitch McConnell—arguably one of the most prolific beneficiaries of the earmark system, amassing almost \$1 billion in earmarks in three years on the Appropriations Committee—followed suit and agreed to a party moratorium, as Democrats still controlled the Senate.¹⁷

Senate Democrats quickly responded, and on 1 February 2011, Senate Appropriations Committee chair, Daniel K. Inouye (D-HI), announced that the SAC was implementing a two-year earmark moratorium. This seemed to come after some amount of pressure from Republicans in the House, but surprisingly significant presidential pressure as well. The president, in his State of the Union address, challenged lawmakers to eliminate earmarks. “And because the American people deserve to know that special interests aren’t larding up legislation with pet projects, both parties in Congress should know this: if a bill comes to my desk with earmarks inside, I will veto it. I will veto it.”¹⁸ One week after the State of the Union address, Senator Inouye reversed course and banned earmarks, declaring, “The President has stated unequivocally that he will veto any legislation containing earmarks, and the House will not pass any bills that contain them. Given the reality before us, it makes no sense to accept earmark requests that have no chance of being enacted into law.”¹⁹

With the full support of both the legislative and executive branches of government in favor of eliminating earmarks, reasonable and responsible progress seemed inevitable. This earmark ban could potentially be

the tool Congress needed to allow its members to divorce their local loyalties from their national responsibilities without constituent backlash. However, many nonprofit watchdog groups have shed light on what seems to be nothing more than rhetoric and a reversal of the transparency from the previous years.

According to a report from the Congressional Research Service quoted in a *USA Today* article, as late as 2010, House Republicans were still passing legislation with earmarks. Although some improvements were made to eliminate the least popular spending, hundreds of DoD projects were still being funded by billions of dollars of pork-barrel politics.²⁰ By the end of November 2011, Citizens Against Government Waste (CAGW) had scrutinized 15 appropriations bills and found 11 of them contained earmarks. Congressmen claimed these bills were free of earmarks, but that assessment seems based on the fact there are no uses of the word *earmark* in the bill and there are no representatives' names attached to "earmarks" as sponsors. This is in line with the current moratorium championed by both parties.

However, projects that are requested by only one chamber of Congress, not specifically authorized, not competitively awarded, not requested by or exceeding the president's requested budget, not subject to congressional hearings in the subcommittee process, or which serve only a local or special-interest group qualify as earmarks. If these stated principles define earmarks, then the 11 bills did, in fact, contain earmarks totaling \$9.5 billion spread over 248 projects. Not surprisingly, about half of the earmarks found in the DoD budget bill—72 costing \$3.9 billion—came from the House, while the Senate added 49 which totaled \$2.9 billion.

According to CAGW columnist Sean Kennedy, members of Congress have now reached the nadir of earmark information transparency. In 2014, earmarks still exist, but congressmen no longer attach their names to them, and these add-on projects are no longer contained in a separate location apart from the text of the bill. In the transparent years, tables were included in appropriation bills that clearly identified earmarks, what they were for, who sponsored them, and the districts they benefited. Now bills must be read line-by-line to identify the projects added by legislators in the deliberation process that were not requested by the administration.²¹ Technically no longer called earmarks, these additions no longer require Congress to disclose the details of their origin.

In essence, the earmark moratorium has not eliminated the earmark; it simply gave politicians an ability to make the process more convoluted and less accountable. According to the CAGW, “The supposed lack of earmarks resulted in a completely opaque process. Since earmarks were deemed to be non-existent, there were no names of legislators, no information on where and why the money will be spent, and no list or chart of earmarks in the appropriations bills or reports.”²² If money is still being funneled to representatives’ districts through earmarks but the transparency has been eliminated, one could conclude the moratorium is not only ineffective but actually counterproductive.

Another tactic legislators use to redirect federal money to their districts is through special slush funds. These special funds are buried in spending and authorization bills that are not labeled as earmarks. In 2011, the HASC created a special fund within the defense authorization bill worth \$1 billion. This fund allowed committee members to add amendments to the bill that would direct money to their districts. According to lawmakers, these were not earmarks because recipients would have to compete for the federal dollars. However, a report by the staff of Senator Claire McCaskill (D-MO) found that 115 of the 225 amendments were former earmarks from previous years. Several of the amendments were entered by incoming freshman representatives who had even campaigned against the use of earmarks. Thankfully, a public outcry ensued, and the bill was stripped of the amendments, but it serves as an example of how politicians will continually find ways to channel money to their districts at the expense of national interests.²³

The earmark no-bid contract still exists today, even in the framework of a supposed earmark moratorium. Unfortunately, the earmark incentivizes legislators to funnel federal dollars to their districts and states at the expense of national security interests and the greater national defense. David Sorenson, author of *The Process and Politics of Defense Acquisitions*, summarizes this phenomenon in two concepts. First, the ability to generate short-term tangible benefits from acquisitions weighs more heavily than the relatively intangible long-term benefits. Secondly, domestic politics are more significant than international politics in influencing outcomes.²⁴ This will remain the case until legislators are no longer required to choose between their local loyalties and their federal responsibilities. Americans must understand that this process diverts billions of dollars from national security capabilities and redirects it piecemeal to

hundreds of districts throughout the country with no coherent plan for the greater national good.

Defending the Nation with the MIAI

When Congress authorizes services and programs in the name of national defense that the service branches have not requested and do not need, this adversely affects the long-term strategic capabilities of the military. Although small adjustments to these programs may sometimes reveal themselves as no-bid contracts or earmarks in the budget, the forced buy of major weapon systems has a dramatically more detrimental effect. Earmarks may expand programs and add additional dollars, but adding entire programs and capabilities that services did not want significantly upsets planned force structure and usually comes at the expense of significant cuts to other major programs.

In the 2007 budget, Congress added billions of dollars for a large number of these unwanted programs, but because the total dollar amount allocated to the DoD is fixed, Congress also had to determine which requested programs would not be funded. Against Air Force recommendations, funds for three additional C-17 aircraft costing \$785 million were added to the budget. The congressional delegation from California leveraged enough support to insert funding for these additional airplanes into the budget to preserve 5,500 jobs and the last fixed-wing aircraft production line in southern California, even though the Air Force said it did not need them. That same year, the Navy was forced to accept an additional LPD-17 amphibious landing ship and a T-AKE cargo ship at a cost of \$456 million.²⁵

To pay for these additional job-producing materiel additions, Congress cut future programs for the services. The Army took a 25-percent cut on its Future Combat System (FCS). At the time, the FCS was the Army's principal modernization program and intended to equip brigades with networked manned and unmanned vehicles providing a more flexible battlefield capability. This program promised to transform the Army of today into the Army of the future. Continued cuts over the following years eventually led to the program's cancellation. The Navy's littoral combat ship program received a 25-percent cut as well, even though the sea service viewed one of its most critical missions as the ability to access the littorals. This naval capability is even more important in

today's environment and encompasses a large portion of the *National Military Strategy* each year.²⁶ The Air Force received significant cuts to its airborne laser program, which began a slow reduction during the next several years and ultimately limited the program to a single prototype.²⁷ Eventually in 2012, after proving it could track and destroy airborne missiles, the sole prototype was sent to the boneyard in Tucson, Arizona, for retirement.²⁸ Additionally, funds for the Reliable Replacement Warhead were significantly cut, leading to its eventual cancellation in 2009. This program was designed to replace decaying nuclear warheads with more reliable, long-lasting, and sustainable ones.²⁹

These programs were not cut because of a lack of requirements, technology, progress, or need, but because they promised only a potential for future jobs, while existing programs, although no longer required by the services, provided current jobs. Therefore, Congress traded potential future jobs and future capabilities for the certainty of current jobs and existing capabilities. Although this phenomenon replays itself in the budget battles every year, the recent battle between Congress and the Army over M1 Abrams tank production is an excellent example that illustrates a Congress willing to erode future capabilities for current jobs under the auspice of national defense.

Army officials have repeatedly said that plans are in place to ensure a fourth-generation Abrams tank is in service until the year 2050.³⁰ However, conventional wisdom regarding the required number of tanks is shifting as the current operating environment changes and adjustments are made for potential future battlefields. During the last 15 years and two wars, the tank has seen little use, and its utility has plummeted. Due to its flat bottom, the tank is extremely vulnerable to improvised exploding devices (IED), the weapon of choice in the counterinsurgency fight in which the US military has engaged for more than a decade. As a result, the Abrams saw combat only as a modified "pillbox," utilized as nothing more than an extremely high-priced bunker for protecting critical choke points or busy thoroughfares. Retired Army major general Paul Eaton, now with the nonprofit National Security Network, said in an interview, "The M1 is an extraordinary vehicle . . . however, [its] utility in modern counterinsurgency warfare is limited."³¹

Eaton is not the only Army general officer questioning the large quantity of tanks in the Army's future inventory. Army chief of staff GEN Ray Odierno testified before the House Armed Services Committee in early

2012 that the Army had more than enough tanks in the field and wanted to shut down production and halt upgrades for several years. The Army's proposal would have closed down production of the main battle tank from 2013 through 2016. Production would resume in 2017 but on the M1A3, a newer version with advanced technology. This three-year moratorium on tank production and upgrades would have saved taxpayers more than \$3 billion, according to General Odierno.³² Odierno's meticulous budget proposal considered not only the Army's inventory of more than 5,300 tanks, but also the Marine Corps' more than 400 M1s, in his recommendation to Congress to halt production of the tank. According to his testimony in a February hearing, Chief of Staff Odierno said that if the congressmen prevailed in mandating an increase and update of Army tanks, the Army would be forced to accept "28 tanks that we simply do not need."³³ With 2,300 tanks deployed around the world, the Army still has roughly 3,000 tanks sitting idle in a remote military base in the California desert. If more tanks are produced, they will end up being transferred directly from the assembly line to the storage lot.

These were not flippant comments from the Army chief of staff, but rather calculations tied to the Army's strategy and vision for the future. According to Odierno, warfare has changed, and the large quantity of tanks once necessary is no longer required, because the future tank's utility will not reside in vast numbers and overwhelming formations, but in advanced detection, tracking, and targeting technologies. According to Ashley Givens, the spokesperson for the Army's Program Executive Office for Ground Combat Systems, "The Army can refurbish all 2,384 tanks it needs by the end of 2013. Freezing work after that will allow the Army to focus its limited resources on the development of the next generation Abrams tank" and buy the next-generation tank several years in the future.³⁴ The deputy director of the Army budget office, Davis Welch, confirmed the Army does not need additional M1A2s because the tank fleet is less than three years old and is the most sophisticated in the world.³⁵

If production were temporarily halted, a small tank factory located in Lima, Ohio, operated by General Dynamics Land Systems would be temporarily shut down. As one might expect, General Dynamics rallied support to ensure tank production would continue in the form of additional government contracts in direct opposition to the Army's strategy. Utilizing a well-organized campaign of lobbying and targeted political

donations to members of the four major defense-related congressional committees, General Dynamics focused its efforts to garner support from congressional leaders who had authority over the Army's programs.

Political watchdog groups such as the Center for Public Integrity criticized the donations and questioned their legality due to timing considerations. It noted the funds coincided with the five legislative milestones for the Abrams, including committee hearings, committee votes, and the final round of the defense bill's passage. According to the Center for Responsive Politics, employees of General Dynamics and its political action committee (PAC) have donated \$5.3 million dollars to members of either the House or Senate Armed Services Committee since January of 2001.³⁶

A careful review of the donations made by the General Dynamics PAC reveals an average weekly donation to members of the four defense committees of around \$7,000. When President Obama announced his 2011 defense budget plan, the donations soared to a weekly average of \$20,000. The second spike was seen in March when the Army budget hearings were being conducted and donations again reached \$20,000. The first two weeks of May saw a third spike. This time the surge coincided with the HASC vote on the budget bill, which contained continued funding for the Abrams and passed with a 60-to-1 vote. September brought a fourth spike in donations totaling almost \$40,000 coinciding with the finalization of the Senate Appropriations Subcommittee on Defense report and a congressional vote on a stopgap funding bill to keep the government open. The fifth and final spike in donations occurred from 11 through 17 December when Congress voted on the entire budget, and that one week of donations totaled \$17,000.³⁷ Although General Dynamics claims donations are never tied to critical milestones, the timing of these five spikes in campaign donations suggests otherwise.

Not unexpectedly, the champions of continued funding for the Abrams tank are Rep. Jim Jordan (R-OH) and Senators Rob Portman (R-OH) and Sherrod Brown (D-OH), all three hailing from the Buckeye State where the tank is produced. However, all three officials claim their support for funding continued tank production is not pork-barrel politics but is a general concern for national security. Representative Jordon is on record saying, "The one area where we are supposed to spend taxpayer money is in the defense of the country."³⁸

The literal defense of the country from outside attacks is a mission assigned to US Northern Command (USNORTHCOM). Contrary to what Representative Jordan swears, and according to the experts responsible for the defense of the United States, the Abrams tank is not used or required for the actual defense of the country. If the representative was using the term *defense of the country* to mean utilizing the Abrams in global operations abroad, the Army has already successfully demonstrated it has excess capacity for years to come.

According to a 2013 Associated Press article, the Lima plant has very little to do with national security and is more of a case study in how federal dollars affect local communities. The plant is the fifth-largest employer in the town of Lima and employs nearly 700 workers. Even though that figure is already down from nearly 1,100 just a few years ago, Lima mayor David Berger claims the facility is crucial to the local economy: “All of those jobs and their spending activity in the community and the company’s spending probably have about a \$100 million impact annually.”³⁹

Ironically, the tank facility in Lima, Ohio, is actually government owned, which means the federal government owns all the equipment inside the factory as well. Technically, General Dynamics does not own any of the existing infrastructure, only the workers. According to General Dynamics, there are 500 contractors connected to the Lima plant who would also lose various amounts of work, which might result in layoffs.⁴⁰

In a bipartisan letter to Army Secretary John McHugh, 137 congressmen asked the secretary to reconsider the Army’s budget proposal and alter it to include the continued production of tanks. In his response, the secretary pointed out that all tanks would be complete with their required upgrades by 2013, and further modernization would not be required until 2016.⁴¹ Congress subsequently added \$255 million in the fiscal year 2012 budget to upgrade 49 M1A2s.⁴²

Although, General Odierno and the Army lost the battle to temporarily halt the acquisition of more Abrams tanks during the procurement and budget battles for 2012, it was only the first round of debates. The following year, Odierno once again proposed halting tank production and pleaded with Congress to cease spending dollars on upgrading tanks that have limited utility to the Army. His message remained the same, while tanks will still play a critical role in the future, they will do so in

much smaller numbers, and the Army currently has more than enough as it stands.

However, Congress wanted to spend an additional \$436 million not included in the Army's budget on tanks for the fiscal year. General Odierno told the Associated Press, "If we had our choice, we would use that money in a different way."⁴³ Because of the automatic budget cuts and decreased spending for the DoD, the Army's sought-after future programs are severely underfunded. Odierno is attempting to reorganize, restructure, and reequip his Army after fighting two major wars, but Congress is standing in his way.

In April of 2012, another bipartisan letter, this time signed by 173 representatives, was sent to then Secretary of Defense Leon Panetta, urging him to support the decision to continue production and upgrades of the Abrams. Interestingly, 25 percent of the representatives who signed the letter were from Ohio, Pennsylvania, or Michigan. These three states would benefit the most from continued tank production, as they are home to suppliers for the Lima tank plant. Additionally, of the 173 signatories, 137 (almost 80 percent) received some amount of campaign contributions from General Dynamics totaling \$2 million. Once again, Congress ignored the Army's plea to cease tank production and upgrades and added \$136 million to the fiscal year 2013 budget for 33 upgrades. These unwanted upgrades came at the expense of aviation programs and the badly needed Battlefield Network program that were subsequently underfunded.⁴⁴

As the new secretary of defense Chuck Hagel entered office, the Abrams standoff entered its third year of debates. Secretary Hagel has taken it upon himself to lead the charge to purge the military of programs that are unnecessary or too expensive in today's age of austere defense. He has attempted to persuade members of Congress to eliminate or scale back pet projects that favor their constituents at the expense of the department. His main concern is that the military does not have enough money to sustain essential operations and training while still procuring the necessary and required equipment. He has sided with the Army on the debate and believes tank production should be halted. As one might have assumed, he is facing fierce resistance from congressional representatives yet again.

On 22 May 2013, 122 members of the House again wrote to Secretary John McHugh to voice their concern over the lack of funds allocated to

tank production in the Army's proposed budget. Sean Kennedy, director of research for Citizens Against Government Waste, weighed in on the debate and encouraged members of Congress to listen to Army officials: "When an institution as risk averse as the Defense Department says they have enough tanks, we can probably believe them."⁴⁵ His opinion has been echoed by many others, including Travis Sharp, a fellow at the defense think tank, New American Security: "When a relatively conservative institution like the U.S. military, which does not like to take risks because risks get people killed, says it has enough tanks, I think generally civilians should be inclined to believe them."⁴⁶

After three years of listening to the debate on tank production, President Obama finally weighed in on the conversation. In May, the White House released a statement in response to Abrams earmarks. It stated that the administration "objects to the \$321 million . . . for unneeded upgrades to the M-1 Abrams tank."⁴⁷ In June, the HASC earmarked \$168 million for the fiscal year 2014 budget to be allocated to M1 upgrades, bringing the total funding for the year to \$346 million.⁴⁸

What sets this apart from previous examples of congressional politics is the Army's own opposition to the procurement. The Army has digested the strategic guidance dictated to it and concluded that when used on current and future battlefields, tanks in large numbers are no longer required. The bottom line is that current numbers of tanks in the force structure already exceed the needs of the nation. The national defense argument to procure more tanks is false rhetoric. Once again, elected officials are forced to choose between their local obligations and their national responsibilities. This is yet another example of the current system favoring local political and economic interests over national military capabilities and using military procurement as an economic stimulus.

The Seawolf Industrial Base

A third way politicians influence long-term strategic military capabilities is by forcing the services to procure equipment whose war-fighting capability is no longer required but whose production will help sustain the national industrial base. "The industrial base" is an intentionally vague concept used in political discourse to refer to a government's industrial assets that are critical for the production of military equipment. The argument to defend the US industrial base has become more popular in

recent years as new technologies increase the lethality of military hardware while simultaneously lowering the required quantities of hardware necessary to secure those same capabilities. The recent onslaught of defense mergers and the overall reduction in the number of corporations involved in the defense business is further elevating the importance of the industrial base debate. Some have even equated saving the military industrial base to bailing out banks that are “too big to fail” during the Great Recession and the federal rescue of the iconic US automotive industry. However, authenticating the industrial base argument calls for due diligence to ensure it is not hollow and just another tool for politicians to secure local jobs by using federal dollars. An excellent example of military equipment procured through the industrial base argument dates back to the mid 1990s and the debate that started it all, the *Seawolf* submarine and the Electric Boat (EB) shipyard based in Groton, Connecticut.

Electric Boat is a division of the General Dynamics Corporation and builds submarines for the US Navy. In early 1989, the company won a highly sought-after contract for construction of the lead submarine in the new *Seawolf* class that was to replace the *Los Angeles*-class attack submarine. The initial authorization was for \$725 million with an expected price tag of each boat to be roughly \$1 billion dollars. The Navy was originally planning on building a fleet of 29 boats.⁴⁹ This submarine was designed purely in response to Russia’s new *Akula*-class submarine, making it a byproduct of the Cold War. It was much quieter and could obtain higher speeds than the *Los Angeles*-class submarine it was to replace. In addition, its eight torpedo tubes made the *Seawolf* an extremely lethal sub hunter.

By the summer and into the fall of 1989, the Soviet Union was in an accelerating downward spiral, and the Cold War was winding down. The dramatic and unexpected Soviet collapse demanded a national reorganization of priorities and reassessment of military spending. On 31 July 1990, with one *Seawolf* already under construction in the shipyard in Groton, the House of Representatives approved a \$284 billion defense bill that included the necessary funding for a second *Seawolf* submarine. However, a study completed by the General Accounting Office recommended postponing procurement of the second *Seawolf* for a year based on the high cost of the program, among other concerns. The Navy, realizing the main capability of the *Seawolf* was no longer required,

wanted to fund production of different ships. If the Navy could get the *Seawolf* program terminated, the smaller but cheaper submarines already in production could conduct every mission the Navy needed. Nonetheless, General Dynamics, Electric Boat, and congressional representatives on the four defense committees from districts affected by cuts to the *Seawolf* program began a nationwide campaign to frame submarine production at EB as a matter of preserving the defense industrial base. Specifically, if submarines were not produced in comparable numbers to previous years, the industrial base would wither away, and a critical national capability would be lost forever. One of the talking points continuously used by Electric Boat advocates was that EB had been the region's largest single employer for almost 40 years and maintained more than 22,000 workers at its two locations in Groton, Connecticut, and Quonset Point, Rhode Island.

By September of that same year, however, the company announced it would be laying off between 920 and 1,150 salaried workers before the end of the year because the Navy was "currently proposing a schedule of [only] three-quarters of a ship per year." Warning of further cuts, the article stated, "If it only gets one *Seawolf* sub contract a year the size of its work force would be cut by 50 percent by the year 2000."⁵⁰ The new year brought more uncertainty for Electric Boat, and concerns loomed over the possibility of the second *Seawolf* contract going to its rival and the only other remaining submarine manufacturer, Newport News Shipbuilding, in Virginia. Testifying before a congressional subcommittee in March, EB general manager James Turner warned that if Newport News were awarded the contract in lieu of EB, "The impact of this production break would result in a severe work force reduction. EB will begin cutting its work force later this year and eliminate about 2,500 positions in 1992 if the shipyard doesn't get the contract for the second *Seawolf*."⁵¹

Important to note, EB's rival, Newport News Shipbuilding, was the largest submarine builder at the time. By all standards, the Tenneco Incorporated-owned company was Virginia's largest private employer and was producing submarines cheaper, mainly due to lower employee wages. If all submarine construction and repair work from Electric Boat was consolidated with the Virginia-based company, billions of dollars could have been saved. By Navy estimates, the savings would total \$1.3 billion while Newport News claimed almost \$10 billion.⁵²

The Eastern Connecticut Chamber of Commerce responded with a letter-writing campaign targeting Secretary of Defense Dick Cheney. The letters focused on the economic impacts of decommissioning the submarine base in Groton. The overall impact of the letter-writing campaign may never be known, but Electric Boat won the \$2 billion contract for the second *Seawolf* in May. The final cost of the second *Seawolf* would climb to \$2.5 billion. Despite the new contract and guaranteed future work, the following month EB issued 827 layoff notices, with another 827 to follow before the end of the year, due to the company attempting to cut operating costs. By December, the company had laid off 1,200 workers in 12 months despite the new contract. As of January 1992, EB had started construction on its second *Seawolf* submarine, while it also had nine older-class submarines still in backlog; yet, more dramatic work reductions were in store for the company.⁵³

The next year, Secretary Cheney asked Congress to rescind nearly \$3 billion allocated to the *Seawolf* program. Shortly thereafter, the president published his 1993 budget that included \$400 million in cancellation costs and rescinded \$3.4 billion dollars appropriated for the second and third *Seawolf* submarines. It was apparent that the administration intended to cancel the *Seawolf* program entirely and was attempting to recoup some previous financial commitments.⁵⁴ President Bush said the Pentagon would save \$17.5 billion out of the \$50 billion proposed cuts through 1997 simply by cancelling the program after the first boat was built.⁵⁵ This was on the backside of congressional urging to make deeper cuts in military spending due to the end of the Cold War and no imminent threat on the horizon. However, in a letter to the secretary of defense, six members of the Connecticut congressional delegation, including Senator Christopher J. Dodd, argued, “The eventual cost of this hasty termination would far outweigh any potential, short-term dollar savings.” They went on to argue that terminating the *Seawolf* program would do “incalculable damage” to the nation’s ability to design and build submarines.⁵⁶ In February, EB announced its intention of letting between 2,000 and 4,000 employees go because of the revocation of the *Seawolf* program. In April, Roger Tetrault, the shipyard’s general manager, testified before the Senate Armed Services Committee regarding further layoffs. According to Tetrault, EB’s employment level would fall below 7,500 in less than four years without further submarine contracts. General Dynamics Corporation took the argument even further

when it submitted a document to Cong. Samuel Gejdenson's (D-CT) office pleading that without further submarine contracts, the workforce of EB would approach zero by the year 2000.⁵⁷ General Dynamics and Electric Boat were arguing their companies' jobs were equivalent to the industrial base. The threats worked, and within a week, the House Appropriations subcommittee restored \$2 billion dollars for the second *Seawolf*, going against Pentagon wishes.⁵⁸

To celebrate the continued funding of a second *Seawolf*, four days later EB issued nearly 1,900 notices to workers that their jobs were to be terminated. It would seem that job security was not associated with additional contracts after all. A more accurate assessment is that job reductions were tied to continued contracts only until they were secured by the company, at which point Electric Boat would let more employees go. Meanwhile, General Dynamics and EB were hailing that the funding secured for the second boat saved the submarine industrial base. The industrial base argument gained momentum among the companies' shareholders and affected congressional representatives in the years to come.

Neil Ruenzel, EB's director of public affairs, claimed the company and the submarine industry were the first to use the defense industrial base argument. Because they were so successful in procuring submarines using this argument, other defense industries followed suit, making the argument a portion of every budget battle since. Ruenzel believed that because nuclear-powered submarines were so specialized, his industry, unlike any others, had to be protected. According to Ruenzel, "Their arguments were fiction, ours were true."⁵⁹

To protect the industry, General Dynamics and Electric Boat mounted a two-pronged public relations campaign. First they had to convince congressional representatives, their employees, and the public that jobs would be preserved if funding for additional projects could be secured. Second, they had to convince policymakers that during low production times, maintaining the workforce must be a priority so that the acquired knowledge, expertise, and resources of the industry would not be lost. However, saving jobs and preserving the industrial base were never the real goals of General Dynamics. The real issue was how to turn their Electric Boat shipyard into a profitable division in the post-Cold War environment saturated with attack submarines while simultaneously downsizing. To do this, General Dynamics needed the *Seawolf* contracts. It leveraged public opinion and legislators to foster support

for an emotional argument. To compete with Newport News, it needed government contracts, and the industrial base argument secured those required funds.

As a jobs program, the *Seawolf* experiment was neither efficient nor cost effective. The cost of the third *Seawolf* was \$3.7 billion dollars and was estimated to have saved 5,000 jobs for three years. Simple math reveals the cost of the boat equates to \$240,000 per worker per year,⁶⁰ a figure more than seven times the national average wage for the time.⁶¹

Excluded from the debate was the rising profit margin of the company while massive layoffs loomed at the shipyard. In 1996, *Forbes* listed General Dynamics as the leading company in the aerospace and defense industry over the past five years based on return on investment. That year, General Dynamics listed a 38-percent average rate of return, while over the same period it laid off almost 11,000 workers in the Electric Boat Division.⁶² This corporate-wide downsizing benefited the company's officers and stockholders. As long as the company could continue to downsize while arguing for the survival of the industrial base to secure government contracts, a few well-positioned people were making lots of money being supported by an even fewer number of political representatives in critical positions to ensure the contracts continued to flow.

The *Seawolf*-class submarine case has shed light on the industrial base debate. Before one categorizes an industry as a vital industrial base, two questions must be asked. First, is the capability being produced uniquely for the national defense? Second, will a company exit the defense sector or go out of business? Only if the answer to both of these questions is yes may one argue that the capability is vital to the national industrial base. However, the *Seawolf* fits neither of these categories.

First, a supersized sub hunter was no longer needed after the collapse of the Soviet Union. There were dozens of *Los Angeles*-class attack submarines adequately prepared to assume the roles of attack subs for the Navy in the early 1990s that were more technically advanced than any capability possessed by potential enemies. Second, according to a RAND study, Electric Boat did not meet the criteria to be labeled as part of the industrial base that needed to be preserved.⁶³ Additionally, there were shipyards still in existence that were arguably better suited to produce submarines for the Navy. Although a third submarine was produced for \$3.7 billion, one must question its true worth to US taxpayers. The defense industrial base argument was used to procure

military capabilities, and once again, the military procurement process was exploited as an economic stimulus.

Improving Strategic Choices for Military Capabilities

US politicians may genuinely want to do what is best for the districts they represent and for the nation they are elected to serve. Even if the United States were not experiencing an austere defense environment, under current policies, laws, and constitutional structure, it is impossible for them to accomplish both responsibilities simultaneously. To ensure local interests of voting districts are represented while still preserving the greater good of national defense, the United States must divorce the local and national responsibilities of our elected officials without changing the important dynamics of democracy and free market capitalism. The task sounds daunting, but solutions do exist including impoundment, revived arsenals and shipyards, and perhaps the French “responsible” concept.

Presidential Impoundment

One simple solution to counter the pork-barrel politics is to revive presidential impoundment, a tool used by the executive branch to enforce fiscal responsibility and restraint. This was a simple way for the president to delay or refuse to spend money appropriated by Congress. The process is neither unconstitutional nor un-American. In fact, the process is almost as old as the country itself. The third US president, Thomas Jefferson, established the precedent in 1803, when he suspended the purchase of 15 gunboats. After France acquired the Louisiana Territory from Spain and closed the port of New Orleans to US commerce, Congress appropriated \$50,000 to purchase the warships. However, two months later, France agreed to sell its newly acquired territory to the United States, thereby eliminating the need for the ships. The president used his authority of impoundment to cancel the production of military equipment based on his assessment of the strategic situation; and in his opinion, the gunboats were no longer necessary.⁶⁴

For the next 170 years, US presidents exercised their authority to execute impoundment of national funds, mostly for trimming excessive military programs they deemed unnecessary. As reported in a *Joint Force Quarterly* article, “Harry Truman refused to spend \$735 million to increase the Air Force from 48 to 58 groups. Dwight Eisenhower set aside

\$137 million for the Nike-Zeus missile system. And John Kennedy, on the advice of Secretary of Defense Robert McNamara, withheld \$180 million to end the XB-70 Valkyrie bomber program.” The champion of presidential impoundment, however, was Richard Nixon. Between 1969 and 1972, he held back almost 20 percent of controllable expenditures. In 1973, in an attempt to control inflation caused by exorbitant government spending in support of the war in Vietnam, he impounded \$15 billion affecting more than 100 government programs.⁶⁵

In response, Congress passed the Congressional Budget and Impoundment Control Act (CBICA) of 1974 requiring the executive branch to spend every dollar Congress saw fit to appropriate. President Ford, in an attempt to work with a hostile Congress, elected not to fight the act in the Supreme Court, and CBICA was the law for 22 years until some lawmakers, including Senator John McCain, realized it contributed to exploding deficits. Therefore, Congress enacted the Line Item Veto Act in 1996, giving the president the authority to veto individual items in appropriations bills, but Congress retained the right to override the veto with a two-thirds vote from both houses. President Clinton enacted his right to use the line-item veto 82 times before the Supreme Court ruled the Line Item Veto Act unconstitutional the following year.⁶⁶

While reinstating the unconstitutional line-item veto may be unjustifiable, bringing back the president’s ability to impound federal dollars is not. By eliminating the CBICA, the president would have the ability to rein in a congressional body that is unwilling to rein in itself. This would still allow congressional representatives to advocate for local constituent jobs through earmarks, garnering them appropriate recognition from their district, while allowing the president to trim unnecessary programs for the greater national good. This simple solution would help to divorce the local and national levels of responsibilities required of US policymakers while still reserving national resources for strategic defense.

Arsenals and Shipyards

In an age where technology has increased the lethality of defense capabilities to the point where mass production is no longer required, fewer businesses are interested in the defense market. Yet the United States needs to maintain an industrial base that has technically matured through continuous R&D while only producing small quantities of products. Most importantly, it needs to do so in an economical fashion.

These prerequisites do not exactly fit the model for a capitalistic, free-market enterprise. Therefore, Americans are left with an inefficient and expensive industrial base, easily leveraged by congressional representatives as a simple way to direct federal dollars to their districts to prop up local economies. However, this was not always the case—alternatives exist.

In 1794, Congress granted Pres. George Washington the authority to establish national arsenals to supply the Army with US-made weapons. The United States, from its very beginning, followed the policy of assigning the responsibility for military supply to the Navy shipyards and the Ordnance Department of the Army.⁶⁷ The Army arsenals were under the command of a government agency, the Ordnance Department of the Army, run by military officers. Similarly, the Department of the Navy operated and controlled the Navy's shipyards. Even though the Ordnance Department was tasked with both designing and producing weaponry, this did not prohibit private corporations from becoming involved in the defense market. Entrepreneurs and commercial companies would bring new models and ideas to the department for testing and evaluation in exchange for payment or future contracts. Production-worthy prototypes were adapted for military use, standardized for manufacture, and produced at the arsenals, or in some cases civilian production lines, although always under the supervision of Ordnance Department officers.⁶⁸ During conflicts, however, the Ordnance Department would augment arsenal production with civilian-contractor production to meet demands for a temporary “surge” capacity. The budget would temporarily spike only long enough to support the war.

But the Cold War changed the defense industry in dramatic fashion. The pattern up to that point had been long periods of peace with minuscule defense budgets supported by federal arsenals and shipyards. The Cold War was different in the sense that it lasted decades and brought with it more defense dollars than ever previously seen. This steady-state budget kept defense contractors in the market after wars instead of returning to civilian markets as they had done prior to the Cold War environment. As defense firms gained political influence, the Pentagon began to close arsenals instead of canceling contracts with private businesses during lulls in production.⁶⁹

With only a few arsenals still in production, the military has become completely reliant on defense firms to supply capabilities for the national defense. The United States has almost always had an edge in the most

advanced military technology. Private companies, however, are not willing to dedicate resources to research and development unless guaranteed contracts and production of large quantities of their weapon systems. The Defense Department has little choice but to commit large portions of its budget to the expensive multi-billion-dollar contract programs. When arsenals were still being used, technical workforces were paid and maintained, but production could be dramatically cut or even shut down all together. This extremely expensive way of operating the defense industrial base is what was referred to as “America’s defense-industry burden.”⁷⁰

According to defense industry experts Eugene Gholz and Harvey Sapolksy, the defense business is no longer a private-enterprise activity, even when the infrastructure is owned and operated by private firms. Congressional members are the only market for the defense industry today, and they are concerned only with district-level economics. Congress buys weapons in response to influence and lobbying from defense companies, which allows unnecessary production facilities to be sustained with constituent jobs. In the words of Gholz and Sapolksy, “Defense has become a jobs program.”⁷¹

The benefits once available from opening the defense industry to commercial companies disappear quickly as enterprises based on capitalistic free-market trade models compete for a single employer, the federal government. Perhaps it is time for the federal government to assess whether a private defense company warrants billions of dollars in profit each year when supported only by federal contracts. Arguably, a better use of taxpayer dollars is having an arsenal produce the same high-quality product but without the mandate for such a high rate of return on investment.

Advocating a resurgence of military arsenals draws criticism from corporate lobbyists who argue arsenals would stifle competition, creativity, and innovation and thereby damage long-term national defense potential. According to Gholz and Sapolksy, however, the United States could build a public arsenal system while still utilizing private defense firms to innovate. Instead of awarding lucrative production contracts to private firms, the government should focus federal dollars on “technological experimentation that is financially worthwhile for private firms.”⁷² The public arsenals would simply produce what the innovative private firms designed. The free-market model has emphasized production over R&D when, in fact, the inverse is more important. Research and development and prototyping should be continuous, while production should

be conducted only when re-outfitting military capabilities is necessary. Gholz and Sapolisky envision public arsenals, with government-owned infrastructure, remaining in low-rate or no-rate production until needed, while private firms continuously develop tomorrow's technologies to retain a technological edge on the battlefield.⁷³

The nation needs to retain an ability to advance technology through R&D while simultaneously halting the production of obsolete capabilities. With industrial mass production a thing of the past and small-scale yet highly technical capabilities the way of the future, supporting a handful of companies with billions of dollars in profit is irresponsible. It is time the arsenals were put back to work producing the needed capabilities to defend the nation and its interests abroad.

The French “Responsible Principle”

The conclusion of the Cold War had the same effect on France's defense budget as it has had on that of the US Department of Defense. Between 1990 and 1997, the French authorized procurement budget decreased by more than 20 percent, from 116 billion francs to less than 89 billion francs. While trying to adjust to the rapidly shrinking budget, the French Defense Force Ministry was forced to determine why weapons had become so expensive in the first place.⁷⁴

After detailed analysis, the French found too many public agencies were affecting the design and development of their desired weapons. To eliminate the meddling, improve efficiencies in the procurement process, and reduce costs, the Ministry of Defense created a single executive agency responsible for contracting and managing all weapons programs. The Ministry of Defense named the new agency the Délégation Générale pour l'Armement (DGA). Management oversight from DGA officials would begin at program inception and remain until product delivery. The head of the newly created agency reports directly to the defense minister and is ranked above every military officer, offering the position tremendous prestige within the French government.⁷⁵ This monumental restructuring has streamlined the French acquisition process.

The second reason French weapons had become so expensive was because private companies were able to overcharge the government for their services. The information asymmetry between the public and private sectors had become large and unbalanced. All the technical knowledge regarding building weapons resided in private firms, and those companies,

motivated by revenues, could afford to pay French scientists and engineers more than the national government. To reduce the information asymmetry, the DGA set out to hire the nation's best and brightest scientists and engineers. Now the DGA prides itself on the technical knowledge every member brings to the acquisition process regarding weapon systems. Additionally, assigning program managers to positions for many years increased continuity, bringing many further benefits.⁷⁶

The DGA altered the way the government conducted business with private firms through better technical understanding and better cost estimates derived upfront. It conducted precontractual negotiations in the development phase of a new program to identify possible shortfalls earlier. The agency also switched to fixed-price contracting, requiring firms to make final bids on the finished product. In theory, the firms assumed all risk associated with cost overruns that might potentially occur. A twist added into their version of fixed-price contracting stipulated that if the government modified the requirements, it paid for the overruns. The French call this fixed-price contracting concept the "responsible principle."⁷⁷

Finally, the French realized that the National Assembly, their equivalent of Congress, could arbitrarily increase weapon costs through pork-barrel politics and funding high-priced contractors from their specific regions throughout the country. In attempting to eliminate program intervention by officials, the Assembly adopted an all-or-nothing approach to the military budget. Now under French law, the Assembly can vote only thumbs up or down on the military budget as a whole.⁷⁸

The United States suffers high costs and inefficiencies in its military procurement for the same reasons as the French. Although a restructuring of the US acquisition process may be a long way off, small changes available today would produce some of the same successful results.

First, the Defense Department should target the nation's very best engineering students. The United States has some of the world's best technical schools, and it hired the best minds in the world when it committed to landing on the moon. This paved the way for the creation of the prestigious National Aeronautics and Space Administration (NASA). Perhaps it is time for the United States to commit once again to a prestigious agency. The Defense Advanced Research Projects Agency (DARPA) may provide a modern-day NASA model that could be used to recruit the best scientists and engineers in the nation.⁷⁹

A second simple solution would be to switch contract types for dealing with the private industry. President Obama has shown enthusiasm for changing to fixed-price contracts. France's "responsibility principle" could work for the US military-industrial complex, and it could be a great opportunity to pursue.⁸⁰

Finally, members of Congress need to divorce their loyalties to their local districts from their responsibilities to the nation. The up-or-down vote has worked for the French Assembly and has worked for US politicians in the past. When Congress realized constituent votes had paralyzed its ability to close even a single unneeded military base, it enacted the Base Realignment and Closure (BRAC) process. Members of Congress voted on the entire package and were not allowed to adjust the bill base-by-base. In similar fashion, Congress can only vote up or down on a proposed foreign trade bill. The French up-or-down vote provides another solution for US policymakers to improve the long-term strategic capabilities of the military procurement system.⁸¹

The military procurement process is far from perfect, and acquiring new military hardware is difficult in today's austere defense environment. The price of technology has skyrocketed, and there are only a handful of contractors in the defense industry. The process itself contains complicated joint requirements, lengthy planning methods and procurement cycles, and involves thousands of decision makers. It is designed to expunge service parochialism from the process through its joint nature and arduous vetting process. It seeks to eliminate wasteful military spending on nonessential capabilities and allows the process to concentrate on identifying the military material capabilities that are necessary to secure national interests and defend national security. Once these requirements have been identified by senior military leaders and requested in the federal budget by the executive office, only an issue of critical national importance should be allowed to alter those needs. Although there may well be legitimate reasons for legislators to favor local constituencies, their primary concern should be providing the DoD with the necessary capabilities required to execute critical national defense missions.

The three main reasons Congress gives for altering federal programs are to expand future markets, to provide for national security, or to strengthen the defense industrial base. However, in each of the three case studies explored here, these claims were found to be hollow. The

recurring theme in each example is that constituent jobs and local investment are considered more important than any other factor. These issues directly threaten the ability of the armed forces to protect national interests and provide security. In times of austere defense, can we afford or should we tolerate them?

Since members of Congress are elected by their constituencies, their loyalty to the voters usually supersedes their federal responsibilities. Therefore, significant national strategic capabilities are impacted in many adverse ways. With 535 members of the House and Senate, each attempting to funnel money to his or her district or state, the collective amount of dollars stripped from crucial military programs adds up, culminating in critical programs going underfunded, or worse, altogether unfunded. Additionally, an individualistic approach to funding military programs through 435 different districts and all 50 states provides for a disorganized and chaotic industrial base which is less capable of supporting the well-conceived, long-term national military strategy.

Whether the United States reinstates presidential impoundment, revitalizes federal arsenals, adopts the French “responsible principle,” or embraces other variations, change is needed. The military strategy and procurement process adequately identifies required capabilities for defending the nation, but congressional politics too often prohibit the acquisition of those capabilities. Elected officials, torn between the pressures to pursue what is best for their districts and their responsibility to protect the greater good of the nation, are failing at the latter. This short-term vision may benefit a few individuals today, but it handicaps the entire nation tomorrow. **SSQ**

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Book Reviews

Foreign Policy Begins at Home: The Case for Putting America's House in Order
by Richard N. Haass. Basic Books, 2013, 208 pp., \$12.00 (paperback).

Richard Haass, former head of policy planning under Secretary of State Colin Powell and president of the Council on Foreign Relations since July 2003, is a well-known voice in the field of foreign and national security policy. He has published more than a dozen books on subjects such as sanctions, wars of choice, and how to be a successful bureaucrat. Haass has worked Middle East and European issues and conducted delicate peace negotiations. *Foreign Policy Begins at Home*, however, takes a different tack from his other books. It does not argue for new vision in foreign policy or assess any particular international problem; it contends that our foreign policy must be modulated and reconfigured to allow us to put our domestic economic and political house in order. Haass argues for a US grand strategy of restoration “that would endeavor to restore the foundations of American power, and the proper balances within and between foreign policy and national security” (p. xii). His argument is clear, concise, and perfectly packaged for national security professionals.

Haass contends that the United States has suffered from overreaching abroad in Iraq and Afghanistan and underperforming at home in a number of fields, to include the economy, budget management, and education. He advocates scaling back in the Middle East, supporting the rebalance toward Asia-Pacific, reducing defense expenditures, and putting more resources into rebuilding infrastructure, improving schools, reducing debt, and increasing economic growth. All of this should be possible, he says, because “the most important and overlooked feature of the contemporary world is that great power conflict is highly unlikely for the foreseeable future” (p. 63).

Haass adds a third problem to overreach abroad and underperformance at home: “underreach,” the failure to realize the important links between foreign and domestic issues and the failure to act coherently abroad, even when better policy is within reach. He notes warily that “isolationism is making a comeback.” While others might call it realism, there is clearly a strain of neoisolationism making its rounds in the war-weary United States. For example, in December 2013, the Pew Research Center, in conjunction with the Council on Foreign Affairs, found that for the first time ever, a majority (52 percent) say that the United States “should mind its own business internationally and let other countries get along the best they can on their own.” In a gentle swipe at the Obama administration, Haass laments the US loss of credibility among its allies.

Haass devotes nearly half of the book to a tour d’horizon of the international scene. His short chapters on China, Europe, and the Middle East are excellent introductions to the problems of those areas. No surprise, he finds Iran and the prospects for conflict over nuclear proliferation to be a major “reason for worry,” although his few pages on the subject appear to have been written before recent progress in negotiations with the current Iranian regime. Across the globe, Haass finds the key new variables in international affairs to be “the unprecedented distribution of power in the world; the reality

of globalization . . . a significant and growing degree of interdependence; and the widespread availability of modern information and communications technology" (p. 78).

The last part of the book is about repairing our domestic base, which Haass calls, "restoration at home." He covers all of the familiar issues—the national debt, education, our ailing physical infrastructure, immigration, and so forth—and ends by examining the US political system, the problem that is preventing the solution to nearly all of the other problems. The author hits squarely at the causes of inaction and polarization, but he does not lay out ways to fix the US political system which continues to produce deadlock and inaction on every major problem faced by our country.

Haass dedicates his book to his old boss, Brent Scowcroft, a retired Air Force lieutenant general who served as the National Security Advisor to both Presidents Gerald Ford and George H. W. Bush. The hallmark of Scowcroft's work was attention to the national interest, hearing all sides of issues, and effective supervision of a national security bureaucracy that in recent years has grown by leaps and bounds. It is hard to argue with Scowcroft's deputy and later secretary of defense, Robert Gates, about the Bush-Scowcroft NSC team: "No matter what any of us do down the road, it will never be as good as this" (p. 167). We will need the caliber of people such as Brent Scowcroft and Robert Gates to solve the problems served up by Haass's book.

The author concludes his book with a concise reiteration of his thesis and a challenge to the next cohort of national security leaders:

This book is premised on the idea that the world needs American leadership, but that American leadership requires the United States to first put its house in order, something that in turn will require its being more restrained in what it tries to do abroad and more disciplined in what it does at home. This is all obviously desirable. But is it doable? The short answer is yes—but doable is not the same thing as inevitable" (p. 160).

In summary, Haass has written an excellent book addressing the way ahead for US national security policy. His book is well-argued, concise, and almost tailor-made for the war college student who is looking for a single source to "get smart" on national security problems of both the domestic and international variety.

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Congress and the Politics of National Security, edited by David P. Auerwald and Colton C. Campbell. Cambridge University Press, 2012, 265 pp., \$29.99.

In *Congress and the Politics of National Security*, US National War College professors David Auerwald and Colton Campbell assemble an impressive group of scholars who examine the effect of Congress on national security issues via its interface with federal agencies and reactions to domestic political concerns. As the editors point out, this volume fills a niche in national security literature addressing the role of Congress in national security policy in a twenty-first-century security environment that is very different from those of the past (p. 12). They posit that congressional authority and responsibility for national security must be accompanied by an ability and willingness to act if any substantive reform of the US national security system is to be successful. The study also addresses whether Congress is "adequately organized to deal with national

security issues" and the idea that Congress lacks the will to act during military operations, an important concept after 10 years of war in Iraq and Afghanistan (pp. 4–5).

The first part of the book is historical, providing the editors' view that the willingness of Congress to take a role in security policy has often been tempered by its ability to do so. This is followed by examples of congressional and executive sparing over national security issues, using the 2001 attacks on the World Trade Center and Pentagon as a historical dividing line. The preattack chapter by Robert Johnson points to a government throughout the nineteenth and into the twentieth century which was rife with partisan politics and ideological polarization (p. 21). This allowed Congress to use foreign policy power given by the constitution, such as ratification of treaties and regulation of trade, to limit presidential ambition for expansion during the 1800s and international intervention in the 1900s. The postattack chapter's subtitle, "Partisan Polarization and Effective Oversight," provides foreshadowing of the authors' bias. This chapter focuses on attempts to organize Congress and its committees for the changed national security environment. It is an effective transition from the previous chapter addressing partisanship to the next four that address specific areas of national security presenting oversight challenges.

The four chapters on oversight challenges—defense, homeland security, intelligence, and foreign aid—effectively argue that Congress is, or could be, involved in a very diverse and complex set of issues as it executes oversight of national security policy and programs. Fragmentation is the theme of Timothy Balunis and William Hemphill's chapter on homeland security but also can be found in the discussions of the other national security policy areas. As a group, the chapters in the second part clearly and persuasively identify how fragmented congressional involvement and oversight over national security have become, and will probably continue to be, given the growing complexity of the international environment and ongoing budget cuts in national security programs. What they fail to do is provide any insight into how Congress should be convinced to reform itself to facilitate more-effective oversight. The discussions about attempts to reform congressional committees and their jurisdictions are reminiscent of those about efforts to develop the National Security Act of 1947 found in Amy Zegart's *Flawed by Design*.

The final three chapters examine specific policy issues—enemy combatant detainees, arms control, and national security surveillance—important to the contemporary national security debate. Each explains the intricacies of the congressional/executive relationship relevant to its topic, but the chapters seem to lack a centralizing theme tying them together as fragmentation did in the prior section. While congressional/executive interaction attempts to fill that role, it does not quite rise to the challenge. These chapters also seem less tied to the broader argument of the book.

David Auerswald's chapter on arms control argues that "the Senate has regularly and increasingly exercised authority over national security policy using the treaty advice and consent process" (p. 189) and concludes that "policy making via advice and consent will continue to have an important impact on U.S. foreign policy" (p. 212). While New START provided an extremely informative illustration of its use relative to treaties, a broader look including confirmation of officials might have made a stronger argument about congressional power inherent in advice and consent. (While post-publication, the 2013 confirmation processes for secretary of defense nominee Chuck Hagel and Central Intelligence Agency nominee John Brennan illustrate this point.)

Louis Fisher's chapter on national security surveillance is a very interesting and thought-provoking presentation of this current policy dilemma but seems somewhat out of place in this volume. It addresses one small slice of the broader intelligence process which was

wonderfully addressed by Loch Johnson in the prior section and, in contrast to most of the other chapters, concentrates on actions of the executive branch and subsequent legislative responses, or lack thereof, rather than congressional action as the primary topic.

The volume admirably covers legislative and executive push and pull over the national security issues. However, it suffers from a lack of attention to the influence of the third branch of government. An overarching concept throughout the volume is that Congress' role in national security is one of oversight through law. There are references to the judicial branch's role in mediating differences between the executive and legislative, but the relationship with the courts could have been more consistently addressed. For example, Robert Johnson brings up the idea that the Supreme Court identified a clear distinction between the powers of the legislative and the executive when it comes to domestic matters and international affairs (p. 31). This distinction is not emphasized in later chapters, despite its importance in the post-World Trade Center attack national security environment with its questions about homeland defense structure and control, where and how to try combatant and noncombatant detainees, and surveillance of US citizens at home and abroad.

While some chapters are extremely dense and appeal only to academics, this volume overall is very understandable and approachable. I recommend it to military officers and NCOs who need or desire to develop a better understanding of the congressional role in national security decision making or individuals who want to develop a greater appreciation of the politics behind a specific issue or policy area. A professional military education course director covering those issues or areas in a course would probably find great value in the individual chapters.

Col Robert J. Smith, USAF

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Rebalancing U.S. Forces: Basing and Forward Presence in the Asia-Pacific, edited by Carnes Lord and Andrew Erickson. Naval Institute Press, 2014, 226 pp., \$47.95.

If you picked up *Rebalancing U.S. Forces* expecting a discussion of where the United States might bed down its forces in the coming years—Vietnam, Thailand, the Philippines—or how the nation might further reposition its fleet and bases as it pivots to the Pacific, you will be disappointed. The editors chose only locations where US forces are hosted presently. There is no grand scheme or forecasting of future basing structure in this volume. What you will find, however, is an excellent and timely discussion of the countries and locations presently hosting US bases in the Indo-Asia-Pacific region.

In this anthology, Lord and Erickson, both professors at the Naval War College, have assembled a team of eight authors from the United States, England, and Australia who are familiar with the politics, history, and problems of basing US forces not just in the Asia-Pacific region, but also the Indo-Asia-Pacific region. Their goal is not to provide an extensive basing strategy but to have the reader “rethink fundamentally the American forward presence in Asia in light of the rapid growth in recent years in the ‘anti-access/area denial’ (A2/AD) capabilities of the armed forces of the People’s Republic of China.” Examining six locations—Guam, Japan, South Korea, Australia, Singapore, and Diego Garcia—on the periphery of perceived adversaries China and North Korea, the authors

address some of the pertinent issues and advantages relative to each hosting location. Two additional chapters take a slightly different twist. In chapter seven, Alexander Cooley, author of several works on basing, addresses some general overseas basing lessons learned from the US experience in Central Asia that should be considered as the nation rebalances. In the final chapter, Sam Tangredi discusses sea basing in brief and reflects on its viability for the future.

Rebalancing U.S. Forces is informative on current US presence in the region, although adjustments to the introductory chapter would be helpful. The maps at the beginning of the chapters provide an overview of that chapter's particular location, giving the reader some reference point. However, a larger regional map or two with annotated distances or transport times to potential foes or other bases might have put things in better perspective and added more depth to one of the major issues in the Indo-Asia-Pacific. The vastness of the area from Alaska to the Gulf of Aden merits more discussion as the United States addresses rebalancing. Secondly, in light of flat budgets, some additional discussion on US and host-nation costs at the various locations would have provided more context involving rebalancing tradeoffs and added to the understanding of how much these nations are contributing toward regional protection.

The strength of *Rebalancing U.S. Forces* lies in the well-written discussion of current US overseas basing, the tradeoffs to be contemplated, and the wealth of footnotes supporting the research. Amid the flat-to-declining budgets for the United States and the rising security challenges posed by China, North Korea, and Russia, the authors address concerns of our host nations—the internal politics and external politics of basing, some of the economic drivers in the host country, national sovereignty issues, and the potential for engagement as a supporter of the United States. Those host-nation concerns are complemented by tradeoffs the United States must consider.

While the authors accomplished their goal to have the reader take a fresh look at US forward presence in this vast region, they push the reader toward several questions. Certainly, one must think through the time and distance concerns and, with those, accessibility relative to proximity issues to potential conflict areas. Should the United States focus on unhindered access at greater distances or potentially hindered access well within range of the threat? Guam, Australia, and Diego Garcia provide favorable access, but only Guam is a US territory with no permissions required; furthermore, all three are great distances from potential flash points. The proximity to China of South Korea, Japan, and Singapore, while decreasing response time, also poses concerns about miscalculations, alliances, and overreactions. Freedom of operation and use from those vital but vulnerable locations is not guaranteed, as the Chinese may employ coercive diplomacy or other measures to deny use.

The authors also challenge the reader to think through a flexible, light footprint base relative to permanent bases. If locations like Singapore, where the United States has a relatively light but constant forward presence, are the model for US flexible force posturing, how do we balance that against the South Korean example of permanent basing for displaying our defense commitment? Finally, with increased anti-access and area denial capabilities employed by China, how does the United States protect its logistics bases and prepositioned ships from attack given that adversary's increased weapons ranges and improved accuracy? How does the United States continue to reassure its friends and allies in the region as it changes relationships with South Korea and Japan or pulls its forces further from the conflict zone? What are the other options?

Rebalancing U.S. Forces is a very informative anthology providing context of where the United States bases forces currently. The authors make a good case for continued and expanded basing in the region to support our friends, partners, and allies. They leave the reader to ponder tradeoffs that make this region logically difficult. This is a book for planners, analysts, and State Department or congressional staffers concerned with the region. They should spend time reading *Rebalancing U.S. Forces* prior to making decisions about our future in the region.

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Defending Congress and the Constitution by Louis Fisher. University Press of Kansas, 2011, 358 pp., \$24.95.

Which of the three branches of government in the United States has final authority on interpreting the Constitution? Considering separation of powers, which branch is most likely to protect the rights of individuals and secure democracy? In response to such questions, Dr. Louis Fisher, in his government and public policy study entitled *Defending Congress and the Constitution*, posits two central points. First, all three branches of government are obligated to act independently to support the system of checks and balances; Congress must never defer decisions on constitutional matters to either the executive or judicial branches without first thoroughly considering and investigating all evidence. Second, the public must look to Congress, not the Supreme Court or the president, to protect both the republic and individual rights, because centuries of evidence demonstrate judicial and executive failings to do so.

With a PhD in political science, Fisher serves as a scholar in residence at the Constitution Project with more than 40 years of research experience at the Library of Congress. He has provided expert testimony before Congress upwards of 50 times. At the time of this book's publication, Dr. Fisher had authored 20 books and more than 400 articles on legal and political issues and has taught at several institutions of higher education.

While Congress continues to obtain significantly low approval ratings, *Defending Congress* presents many insights into ways it could potentially improve its standing. Primarily, lawmakers should not automatically abdicate their duties by unquestioningly deferring to the president or Supreme Court. This automatic deferring, according to Fisher, is a violation of legislators' oath of office to support and defend the Constitution; ergo, it is a failure to protect the people who elected them.

Fisher casts a wide net to include historical examples covering federalism, individual rights, religious freedom, budgetary policy, and national security. Regarding the latter, he writes that post-World War II presidents have unconstitutionally gone to war. He cites Korea and Kosovo as the most grievous examples, since presidents at the time of those conflicts completely bypassed legislative approval required by the Constitution and Congress acceded. Conversely, regarding religious freedom, he references the case *Goldman v. Weinberger* when Congress protected constitutional rights subsequent to the judiciary's failure to do so. In this particular case, the author indicates that Congress *did* fulfill its role by stepping in to override a Supreme Court ruling that denied members of the armed services the right to wear religious items while in uniform.

Fisher concludes his thesis by stating public officials must not simply default to other officials' actions and judgments and, in this regard, they must ask the following three questions: "On what authority do you act? What evidence do you have? Why is your argument reasonable?" (p. 332). Indeed, wise counsel to heed for all persons obligated by oath to secure the principles of the Constitution.

Defending Congress is thoroughly researched and rich with historical examples that make for informative reading. Overall, the author provides more than satisfactory support for his main tenets. However, the book fell slightly short of expectations in the religious freedom chapter where Fisher wrote: "Conscience and religious opinions are fundamental to human freedom and should not be regulated by any part of government, judicial or nonjudicial" (p. 135). Perhaps he missed an opportunity to support his argument by not discussing the controversial element of the Patient Protection and Affordable Care Act that penalizes business owners who decline to offer birth control as a health plan component. Opponents of the legislation would argue that the birth control dictate conflicts directly with Fisher's statement regarding religious liberty. Lastly, the author describes disciplinary action he received after writing an article that his employer at the time, the Congressional Research Service, considered nonneutral and an organizational conflict of interest. This lengthy section of the book distracted somewhat from the text's primary objectives.

Defending Congress and the Constitution offers all who read it a treasure trove of research about our republican form of government and the separation of powers. Historians, political scientists, and others serving in fields of government or law would especially appreciate Dr. Fisher's subject matter expertise and comprehensive coverage of the issues. Public sector officials in all capacities will discover a useful reference for interpreting and understanding the remarkable complexity of governmental functions and interactions. The work arrives at a propitious time when many of the challenges facing the nation will require effective, yet constitutional, interplay between the branches of government.

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The Economics of Enough: How to Run the Economy as if the Future Matters
by Diane Coyle. Princeton University Press, 2011, 346 pp., \$25.00.

While economics has often been viewed as the domain of academics, the last four years have propelled the subject to the forefront of the public consciousness. Crushing private debt, the Great Recession, the mortgage crisis, a financial and banking meltdown, and government stimulus efforts have dominated headlines and put traditional concerns like foreign policy on the backburner. Even within the military, the economic constraints of two recent wars, defense budget cutbacks, strategic shifts, and the painful, protracted fight over sequestration have given economics a front-and-center position at the debate.

Diane Coyle's *The Economics of Enough* uses these crises as a launching pad to analyze what is wrong with the current economic system and what can be done to provide for long-term, sustainable recovery and growth. Dr. Coyle, a visiting professor at the University of Manchester, is a widely published economic authority in Britain, has been recognized for her work with the Order of the British Empire, and has written extensively on economic topics, including the new digital "weightless" economy. She holds a PhD from Harvard.

Economics of Enough begins with a look at how basic components of human life and organization have been showing signs of stress. Using contemporary examples and highlights from a survey of the current literature, she details how the concepts of *happiness*, *nature*, *posterity*, *fairness*, and *trust* are all beginning to show wear and tear in today's global economy, particularly *nature* and *posterity*. Current government policies and consumption activities are depleting natural resources at a rapid pace. The current generation is also expecting a wide array of government services and social programs while bequeathing the bills (immense ones, likely to go unpaid) to future generations.

But the book is not a doom and gloom call for panic or retreat to the hills. Instead, Dr. Coyle systematically lays out the inherent obstacles in today's economic and political systems that prevent us from fully redressing the grievances she presents. These obstacles are summarized as *measurement*, *values*, and *institutions*. She argues that the current methods of collecting data do not capture enough information to truly reflect social progress. After all, if *happiness* is a key component of human society, we need to have accurate methods of assessing whether or not the work of the government and private sector have been able to achieve it. She also drives home the point that current statistical measures, such as gross domestic product (GDP), do not reflect the current economy and have lagged behind in capturing all the value and less-tangible wealth that the new digital and "weightless" economy produces daily. Readers will come away from this section mulling over her very well-conceived points and reconsidering their assumptions regarding the use of statistical measures.

For Dr. Coyle, the needed changes in today's economy are extensive and challenging. She lays out a roadmap for the future in the final part of her book: a section entitled "The Manifesto of Enough." The title reflects the idea that current consumers and societies are right now in the pursuit of having *enough* but there also needs to be *enough* to pass on to future generations. In addition to the previously mentioned reevaluation of statistics, she advocates government action to help reshape the values of the capitalist markets. Excessive bonuses for bankers and financial sector workers should be taxed at a high rate to discourage that activity and dampen the spread of inequality. Western governments should enact policies that encourage saving and investment for the long term. But these governments themselves are in need of reform, so greater citizen engagement in the deliberative processes could help loosen the stranglehold of special interests and encourage the introduction of regulation and fiscal discipline needed for the benefit of future generations.

For a book on such controversial topics as climate change, long-term government debt, and political gridlock, it maintains a healthy, balanced point of view. While the subtitle about how to "run the economy" may sound like advocacy of central planning, that is not the message. Instead, Dr. Coyle presents the view that we are all integrally involved in running the economy and making crucial choices about the world we will pass on to future generations. She quotes and evaluates the thoughts of economists across the spectrum and does not simply repeat their ideological answers. Instead, she lays out both the pros and cons of each and places them within the context of what needs to be done to make the economy sustainable now and in the future.

For anyone interested in how today's economy will impact the future, this is a worthwhile read. Particularly, anyone involved in long-term strategic and governmental initiatives would do well to heed some of the cautions she gives. Readers will find the work easy to navigate, as Dr. Coyle cogently lays out her arguments and systematically and effectively uses evidence to back up her positions. The first two parts of the book on the challenges and the obstacles are definitely the strongest because of their thorough analysis.

and effective argumentation. The book ends with a shorter section on what must be done to solve these problems, and that part disappoints. Readers are left wondering where the compelling force will come from to enact these needed changes to make the future sustainable. However, they will come away with a new framework for viewing the present and the future and begin to wonder how they can begin to do their part in making positive changes. And that, in the end, may be the force that will reshape our institutions and put our economy back on solid ground.

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Competitive Strategies for the 21st Century: Theory, History, and Practice, edited by Thomas G. Mahnken. Stanford University Press, 2012, 318 pp., \$29.95.

Thomas Mahnken turns the essays from a 2010 US Naval War College conference into a collection of thoughtful, well-blended, and informative essays by 19 contributors on the theory, history, and application of US competitive strategies. Mahnken's ability to guide the reader through the theory and evolution of US strategy and seamlessly transition into the here and now provides thought-provoking insights for anyone from the "armchair" strategist to those highly versed in US policymaking.

Part I addresses the concept and theory of competitive strategies. Insights offered by the authors are well reasoned and help gain an understanding of competitive strategy. Bradford Lee's chapter on strategic interaction goes past the typical Clausewitz/Sun Tzu strategy colloquialisms, instead building upon them to form four strategic concepts—denial, cost imposition, attacking the enemy's strategy, and attacking the enemy's political system. Barry Watt's final chapter of the section provides crystallization on why competitive strategy is so difficult to implement. The six reasons he outlined are logically presented, simple to understand, and provide solid examples that expand on his arguments.

Part II, on the practice of competitive strategies, proves both fascinating and daunting. Gordon Barrass's chapter provides a clear historical example of the ultimate US victory over the Soviets via competitive strategies and provides some little-published historical events, such as an early precursor to cyber warfare as far back as 1982. John Battilega's chapter forced the reader to muddle through a few pages of "important aspects of Soviet military thought." This ultimately caused this reader to lose focus and potentially miss the meat of his argument: Soviet perspectives on four US competitive strategy initiatives.

As Mahnken turns to current competitive strategies between the United States and China in part III, the readings are more enticing but also more speculative. James Holmes's chapter on "The State of the US-China Competition" discusses several salient points on Sino-US military competition but never addresses the impact the US ability to control sea lines of communication (SLOC) has on China's trade and resource imports—thus giving the United States an ace-in-the-hole against China's regional hegemonic aspirations. Holmes also remains focused on military competitive strategies and does not look at the totality of instruments of power. One cannot help but think the increasing economic interdependence between these nations will not also have an effect on our behavior toward one another. Indeed, Jacqueline Newmyer Deal's chapter, "China's Approach to Strategy and Long-Term Competition," supports this notion when she concludes that the Chinese

seem to be combining informational and economic instruments of power to paralyze a US response to a future military attack.

Dan Blumenthal's chapter on "The Power Projection Balance in Asia" provided an excellent analysis on future areas of conflict. He points out an inherent disadvantage of the United States: China need only keep us out of its home turf, while we are consistently the visiting team. His logical arguments help explain why China is becoming more worrisome to US policymakers. Noting that as the power-projection balance shifts in China's favor, US responses will be more escalatory in nature, Blumenthal introduces a critical dilemma plaguing US policy. The very responses the United States may be forced into are in stark contrast to its desired end state—the status quo. Blumenthal never addresses a US response to this no-win situation, instead, focusing on the more straightforward approach of trying to sustain our power-projection advantages, thereby avoiding the dilemma. Owen R. Coté Jr.'s article on "Assessing the Undersea Balance" is a superb accompaniment to Blumenthal, looking at why and how we can use competitive strategies to maintain our power-projection edge via undersea capabilities.

The final three chapters of part III, while interesting, get too myopic in viewpoints. Chase and Erickson's chapter focused almost entirely on the growing ballistic and cruise missile threat, while Toshi Yoshihara's chapter dealt entirely with proposed Japanese competitive strategies. Ross Babbage's chapter on Australia's role in the Western Pacific strategic competition does discuss enabling seamless operations with the United States, but ultimately these chapters serve to highlight the glaring weakness of this section—an overly military-focused approach to a rising China. Even at the height of the Cold War, it was a robust approach of both a military buildup and diplomatic/economic solutions (i.e., getting oil prices to drop) that led to victory. Part III, for the most part, avoids looking at competitive strategies through a holistic approach. Economic or diplomatic means to supplement the competitive military approach are never addressed, and this omission is significant. China is much different than the old Soviet Union; there are vast amounts of Sino-US economic interests at stake. The impacts of this relationship are rarely discussed. There are nonmilitary ways and means that can contribute to our strategic approach, and not addressing "soft power" gives the reader an incomplete picture.

Part IV leads off with a chapter that addresses some of the issues above. Thomas and Montgomery outline some of the broader diplomatic and economic opportunities the United States has but never draw the connection with how these can work in concert with military options. For example, does China view the Straits of Malacca as a critical weakness? If so, could a US-India relationship force China to focus development on a blue water navy vice the ballistic missiles that will be more effective inside the first island chain? Although the chapter offers valid points, it stops short of offering a competitive strategies perspective by never discussing how our behavior can induce China to take actions that are ultimately self-defeating. Paul S. Giarra's chapter spends the last four paragraphs pointing out the vulnerabilities of China's SLOCs but stops short of identifying how to exploit the weakness. James R. FitzSimonds completes the book, making three recommendations for military procurement and tactics. He asserts that the main impediment toward implementing his recommendations is a cultural barrier, *not* a funding or technological one. Although FitzSimonds makes feasible arguments, the true benefit of his chapter is how it highlights how small measures can cumulatively tip the balance of power against China by using competitive strategies.

Book Reviews

The one issue Mahnken never truly addresses is whether taking a competitive strategy approach has the potential to create a series of military buildups that lead to increased tensions and potential military conflict. Will competitive strategies create the very environment we are hoping to avoid? Despite the discussion on consequences, Mahnken's book is extremely interesting and educational for understanding competitive strategies. Individuals who want to understand how we can compete with China militarily over the next few decades would be well served to read his book.

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